Performance Analysis User Guide

ADVISOR Enterprise User's Guide

Foreword

ADVISOR Enterprise is a Training Management System that drives training efficiency by (a) aligning current and future training activities to operational requirements to identify gaps, duplications and training with minimal value; (b) forecasting and comparing the costs of viable delivery options; (c) uncovering cost drivers; and (d) improving resource allocation. ADVISOR is built around the ADDIE model with the added flexibility of starting the analysis at any level. ADVISOR is made up of the following modules that can be used separately or in any combination.
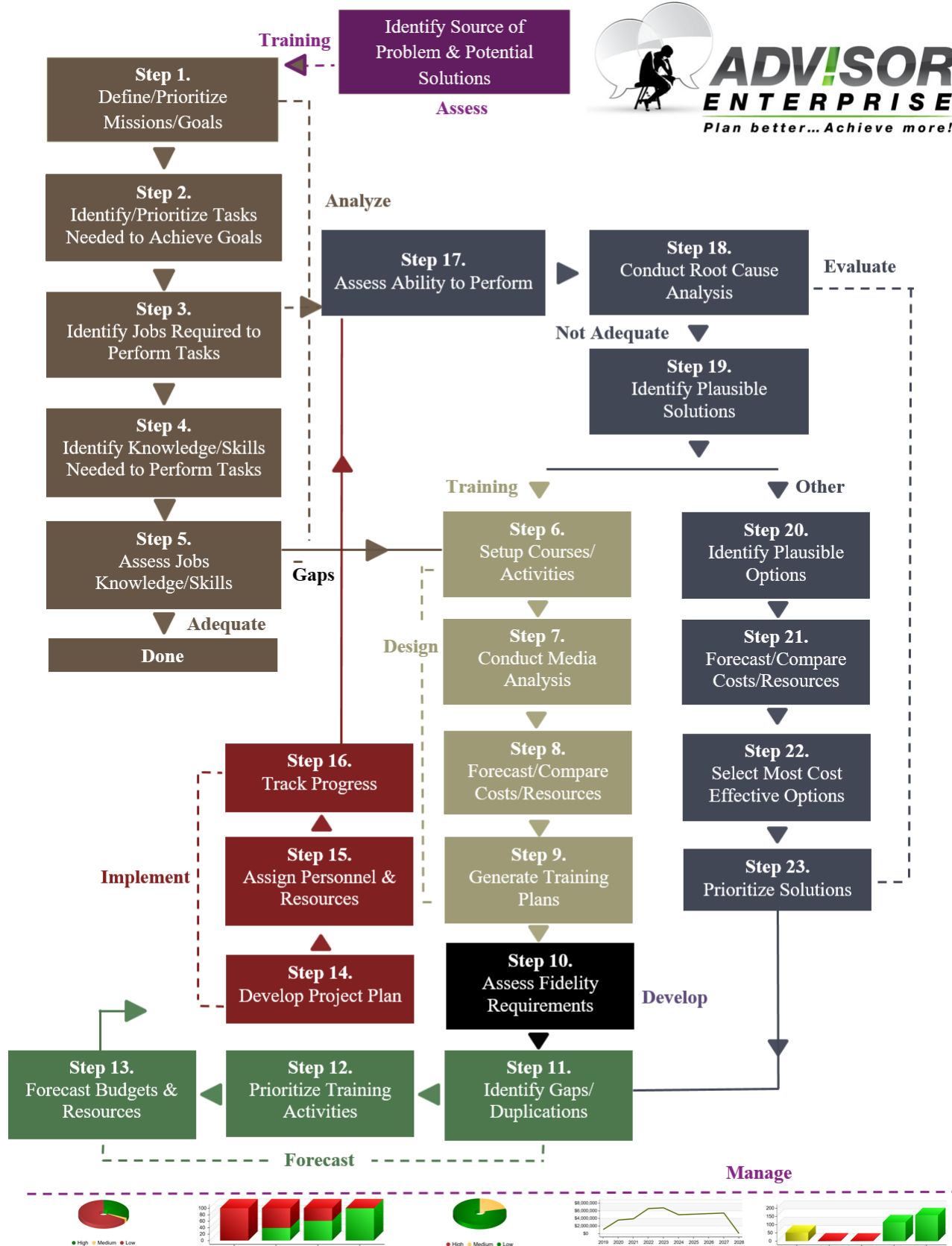
Needs Assessment	**A**ssess: To find out "*the cause of the problem and potential solutions*". Provides a step by step approach for understanding a problem before selecting the solution – in other words, before assuming that training is needed. Needs Assessment provides an audit trail and serves as the foundation for decisions by zeroing in on the source of the problem, identifying solutions that can produce the desired level of productivity, and highlighting actions that will generate the greatest impact. [Scope and Needs Assessment].
Training Analysis	**A**nalysis: To find out "*who needs to be trained, on what and why*". Provides a step by step approach for conducting Training Needs Analysis (TNA) or Training Systems Requirements Analysis (TSRA) to identify training needed by each job, position and employee to perform duties to the desired standard under the prescribed conditions. Four approaches may be used to conduct training analysis, namely Mission, System, Competency or Job. [Mission Analysis, Competency Analysis, System Analysis, Job Task Analysis, Knowledge/Skill Gap Analysis and Training Requirements Analysis].
Training Design	**D**esign: To find out "*what is the most effective and economical way to deliver training*". Provides a step by step approach for conducting Training Media Analysis (TMA) or Option Analysis to identify the most cost effective strategy for the delivery of training and generates Training Plans. The analysis takes into account limitations, instructional design requirements, upfront and recurring costs over training program life as well as risks associated with the introduction of new technology. [Media Analysis, Cost Analysis and Training Plans].
Fidelity Analysis	**D**evelop: To find out the "*fidelity requirements of training devices*". Provides a step by step approach for assessing the functional requirements of trainers and simulators based on training needs and performance objectives. It identifies visual, tactile, olfactory, affective and auditory sensory cues needed to practice tasks, within realistic environments, under preset conditions to attain the desired level of competency. In addition, ADVISOR takes into account elements within the virtual world and how users interact with each.
Resource Management	**I**mplementation: To find out "*how much money and resources are needed*". Compiles and analyzes missions/goals, competencies, systems, jobs, tasks, training requirements, courses, activities, costs, personnel and resources to generate concise, up to date and actionable reports. The reports provide insight on planned training activities for any time period; training requirements for each job/employee; budget, personnel and resource requirements, training impact as well as how to drive training effectiveness and efficiency by leveraging technology, improving resource allocation and identifying gaps, duplications and unwarranted training. [Forecast and Optimize Training Budgets, Personnel and Resources].
Project Management	**I**mplementation: To find out "*how training should be implemented*". Provides a step by step approach for planning a project and tracking progress in real time. This includes the setup of phases and tasks, dependencies and constraints, timelines as well as the assignment of personnel and resources needed to complete. Moreover, ADVISOR tracks progress by comparing hours worked and money spent on each task to project plan, to anticipate delays, facilitate the implementation of corrective measures, and keep projects on-time and within budget. [Develop Project Plans and Track Progress].

Performance Analysis

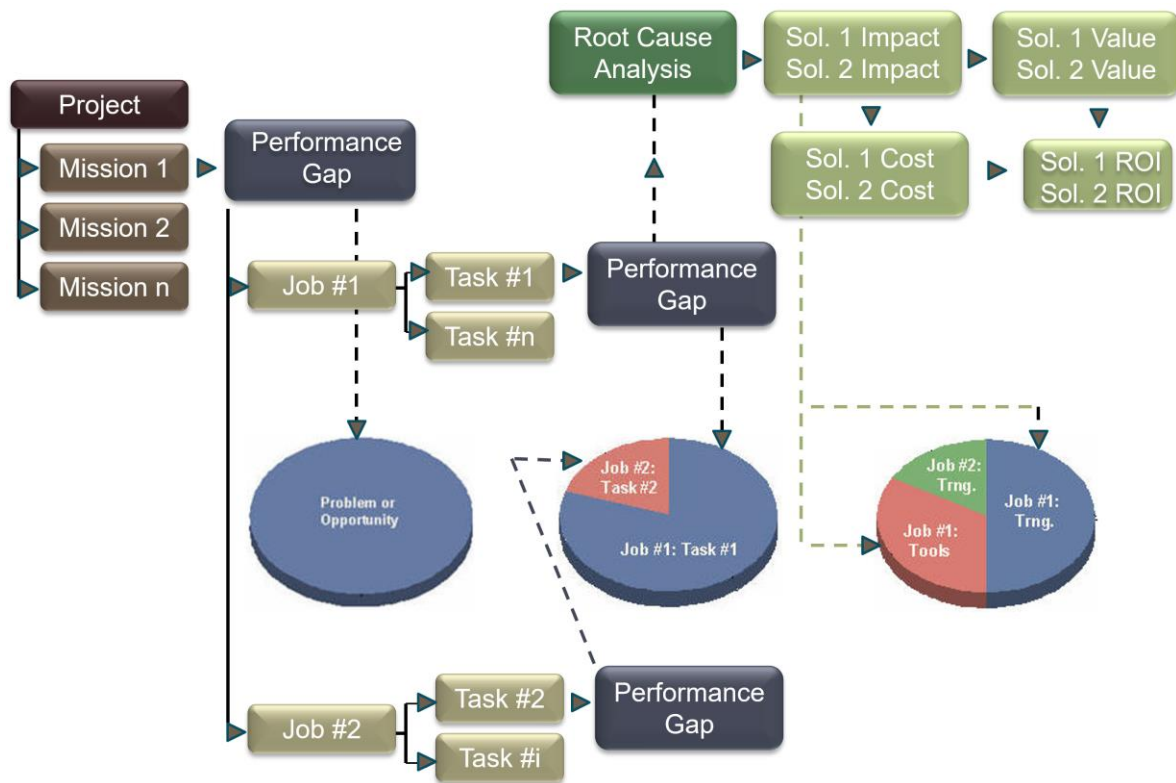**E**valuation: To find out "*how training impacts performance and organizational goals*". Provides a step by step approach for improving performance by zeroing in on the source of the problem and identifying solutions that can produce the desired level of productivity. Moreover, ADVISOR highlights actions that will generate the greatest impact by assessing the feasibility of implementing plausible solutions as well as forecasting the costs, benefits and Return on Investment (ROI) of each intervention. [Performance Gap Analysis, Root Cause Analysis and Cost Benefit Analysis].

Training Life Cycle Management

Manage: To "*continually uncover venues to drive training effectiveness & efficiency*". Maintains training effectiveness and efficiency over time by continually assessing the impact of changes to missions, jobs, tasks, systems, policies, technologies, throughput, and so forth on training content and activities; as well as budget, personnel and resource requirements. This is attained through a digital-twin model that continually aligns training activities to operational requirements to identify gaps, duplications and training with minimal value. Results (personnel/resource requirements for any time period; cost drivers; bottlenecks and deficiencies) are quickly and concisely communicated through dashboards. Actions that drive training effectiveness and efficiency are also highlighted.

Training

Identify Source of Problem & Potential Solutions

Assess

Step 1. Define/Prioritize Missions/Goals

Step 2. Identify/Prioritize Tasks Needed to Achieve Goals

Analyze

Step 17. Assess Ability to Perform

Step 18. Conduct Root Cause Analysis

Evaluate

Step 3. Identify Jobs Required to Perform Tasks

Not Adequate

Step 19. Identify Plausible Solutions

Step 4. Identify Knowledge/Skills Needed to Perform Tasks

Training

Other

Step 5. Assess Jobs Knowledge/Skills

Gaps

Step 6. Setup Courses/ Activities

Step 20. Identify Plausible Options

Adequate

Done

Design

Step 7. Conduct Media Analysis

Step 21. Forecast/Compare Costs/Resources

Step 16. Track Progress

Step 8. Forecast/Compare Costs/Resources

Step 22. Select Most Cost Effective Options

Implement

Step 15. Assign Personnel & Resources

Step 9. Generate Training Plans

Step 23. Prioritize Solutions

Step 14. Develop Project Plan

Step 10. Assess Fidelity Requirements

Develop

Step 13. Forecast Budgets & Resources

Step 12. Prioritize Training Activities

Step 11. Identify Gaps/ Duplications

Forecast

Manage

Approach

Why is ADVISOR Enterprise so effective? Because it focuses on operational requirements – i.e., identifies the knowledge, skills and competencies needed by each job, position and employee to attain organizational missions/goals, as well as the most efficient way to achieve. In addition, facts support the decision making process, helping you create consensus to stay the course.

Using our proprietary methodology, your efforts unfold in four phases, as follows:

Discover
- Define Missions/Goals.
- Identify Tasks needed by each Job/Position/Employee to attain missions/goals.
- Identify Training requirements.
- Outline current Training Courses/Activities.
- Find out where money and resources are allocated.

Strategize
- Map Training Courses/Activities to Operational Requirements to identify gaps, duplications and unwarranted training.
- Assesss alternate venues for the delivery of training.
- Uncover resource allocation.
- Uncover cost drivers.

Prioritize
- Prioritize Training Courses/Activities - from highest to lowest impact on missions/goals.
- Prioritize recommended changes to current delivery options.
- Identify personnel/resources excess capabilities and bottlenecks.
- Identify strategies for mitigating high cost items.

Optimize
- Develop an implementation strategy starting with low risk, low cost, high impact options.
- Align personnel/resources with new strategy.
- Develop project plans and monitor progress.
- Assess and validate results.

Plan better… Achieve more!

Performance Analysis

ADVISOR Performance Analysis module provides a step by step approach for improving performance by zeroing in on the source of the problem and identifying solutions that can produce the desired level of productivity. Moreover, ADVISOR highlights actions that will generate the greatest impact by assessing the feasibility of implementing plausible solutions as well as forecasting the costs, benefits and Return on Investment (ROI) of each intervention.

ADVISOR is a very powerful, useful tool for making decisions about which medium is right for your organization. A significant contribution to the training industry.

Brandon Hall
Editor, Multimedia and Internet Training

ADVISOR Features

Performance Gap Analysis: Assess, compare and validate actual missions/goals performance to desired performance to identify performance gaps.

Performance Measures Analysis: Assess the financial impact of performance gaps by defining performance indicators – i.e., impact on output, costs, time and quality.

Job and Performance Analysis: Identify Jobs and Tasks that contribute to performance gaps. Assess ability to perform to desired standard.

Data Required: Highlight data needed to assess the cause of the problem. Provide questionnaires for collecting data from employees, supervisors, subject matter experts, and so forth.

Root Cause Analysis: Quickly zero in on the root cause of a performance deficiency by considering crew and supervisors' feedback, tools, policies and work environment to identify viable solutions.

Solution Effectiveness Analysis: Assess and rate the viability of plausible solutions based on compatibility with personnel and infrastructure.

Solution Cost Analysis: Forecast and compare costs, personnel and resource requirements of viable solutions over program life cycle.

Solution Analysis: Assess the costs, impact and return on investment (ROI) of each intervention and prioritize recommendations.

ADVISOR Benefits

Speed Data Collection: Collect data from employees, supervisors, subject matter experts, etc., offline through custom-built questionnaires. Exchange data with systems through xml.

Facilitate Collaboration: Store all data in a centralized database accessible anytime and from anywhere by team members with only a Browser; and track changes made by each individual.

Facilitate Reusability: Search, locate and copy relevant performance measures from one mission/ goal to another with ease.

Speed Analysis: Automatically identify Jobs and Tasks that may contribute to a performance gap; as well as plausible solutions to address performance gaps.

Minimize Waste: Avoid solutions with minimal impact on performance deficiency, do not meet organizational need or contribute to bottom line – i.e., costly decisions based on faulty assumptions.

Minimize Risk: Assess personnel receptiveness to plausible solutions, solutions compatibility with infrastructure, as well as life cycle costs.

Maximize Impact: Prioritize solutions based on effectiveness, costs, risk and impact – i.e., where budget and resources should be allocated.

Speed Report Generation: Produce Performance Analysis, Root Cause Analysis, Cost Benefits Analysis, and dozens of reports in a single click.

BNH delivered as promised.

Col. Eric MacArthur
Canadian Forces College

Very user friendly. Covers all aspects you should consider when making a decision.

Joyce Miligan
Training Manager, New Brunswick Tel

Acknowledgement

ADVISOR Enterprise is the result of over twenty years of research and development. Dozens of organizations and hundreds of individuals have contributed to the development and evolution of ADVISOR and for this we are very appreciative. Our primary objective is to develop a practical, reliable and robust tool that simplifies and speeds training analysis, forecasts and optimizes training resources, improves resource allocation, generates audit trail to support recommendations, facilitates collaboration and sharing of data among team members, minimizes duplication as well as facilitates the upkeep of analysis over time to keep training programs effective, efficient and relevant. We believe that with the assistance and contribution of the following organizations and individuals, we have been able to accomplish this goal.

- CAE
- Canadian National Defence
- Federal Deposit Insurance Agency
- Lockheed Martin
- National Security Agency
- Merck Company
- Nortel Networks
- Pearson TQ
- Raytheon Systems Company
- Southern Steel Company
- UK Ministry of Defence
- United States Air Force
- United States Army
- United States Coast Guard
- United States Marine Corps
- United States Navy

- Lisa Abramson – Merck & Company
- Larry Alberter – National Security Agency
- Cathi Billings – Sheppard AFB
- Ferrell Briggs – Naval Aviation Maintenance Training Group
- Tim Bothell – Franklin Covey Company
- Greg Campbell – Canadian National Defence
- Bruce Castle – Lockheed Martin
- Bryan Chapman – Brandon-Hall.com
- Rick Cheek – Keesler AFB
- Dr. Ed Chenette – Chief of Naval Education and Training
- Dr. Adelaide Cherry – Maxwell AFB
- Alex Cohoon – US Navy, Virginia Beach FCTCLANT
- Beverly Condon – Goodfellow AFB
- Dr. Dennis Duke – US Navy Naval Air Systems Command
- Dr. Bruce Eddy – Lockheed Martin
- Russell Edmonds – UK MoD, Training and Simulation Systems Programme (TSSP)

- ➢ Frederick Glover – Naval Aviation Maintenance Training Group
- ➢ Dr. Robert Guptill – Dynamic Research Corporation
- ➢ Richard Grahlman – Naval Postgraduate School
- ➢ Dr. Jo Ann Graves – Expeditionary Warfare Training Group, Pacific
- ➢ Dr. Anthony Head – UK MoD, HQ Land Forces
- ➢ Janet Heins – Merck & Company
- ➢ Peter Hope – Canadian National Defence
- ➢ Betty Sue Jones – Maxwell AFB
- ➢ James Kalivoda – Naval Education and Training Professional
- ➢ David M Lorage – US Coast Guard
- ➢ Dr. Fred Madsen – Lockheed Martin
- ➢ Dr. Tim McLaughlin – Raytheon Professional Services
- ➢ Dr. Bill Melton, US Army – TRADOC
- ➢ Jesse Martinez – US Marine Corps
- ➢ Dr. Arlen Michaels – Nortel Networks
- ➢ Hector Moya – Goodfellow AFB
- ➢ Vangie Nix – Maxwell AFB
- ➢ Stephane Ouellet - CAE
- ➢ Arlene Parker – Keesler AFB
- ➢ Dr. Albert Pruett – Naval Aviation Maintenance Training Group
- ➢ Peter Sabiston – Canadian National Defence
- ➢ Mike Sazma – Great Lakes Naval Training Center
- ➢ Fred Roberts – Federal Deposit Insurance Corporation
- ➢ Roger St. Pierre – Canadian National Defence
- ➢ William Schafer – Trident Training Facility Bangor
- ➢ Dr. Bill Shook – Boeing Company
- ➢ Robert Simmon – Naval Technical Training Center
- ➢ John Stacy – Kraft Foods
- ➢ Karl Stradley – Raytheon Professional Services
- ➢ Gary Troy – Goodfellow AFB
- ➢ Dr. Steve Ulosevich – Southern Steel Company
- ➢ Chris Winters – Raytheon Systems Company
- ➢ Pete Willey – Pearson TQ
- ➢ Dr. Kenneth Woolman – Lockheed Martin

Thank you.

J. Bahlis, Ph.D., P.Eng.
President
BNH Expert Software Inc.

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Chapter 1: Getting Started

1.1 Introduction

When faced with a performance deficiency, all too often the focus gravitates towards training as the solution. In most cases, however, performance deficiencies are caused by multiple factors including vague expectations, insufficient and untimely feedback, limited access to required information, inadequate tools, resources and procedures, inappropriate and counterproductive incentives, and so on. Moreover, it is much easier to fix the environment than people. To put it in simple terms – if the gap is not due to a lack of knowledge and skills, don't train!

Whether you are investigating a performance deficiency or evaluating training impact, the reasons behind a performance gap as well as the costs and benefits of plausible solutions should be clearly articulated. With accurate, factual data in hand, solutions can be identified; costs and benefits quantified; interventions prioritized and action plans formalized to continually improve performance.

1.2 How Can ADVISOR Help You?

In addition to simplifying and speeding Training Needs Analysis (TNA) and Training Systems Requirements Analysis (TSRA), ADVISOR Enterprise drives training efficiency by aligning current and future training activities to operational requirements to identify gaps, duplications and training with minimal value; uncovering cost drivers; forecasting and comparing the costs of viable delivery options; improving resource allocation; identifying/mitigating bottlenecks; producing training plans that leverage existing training programs/resources and generating audit trail to support recommendations.

Moreover, ADVISOR preserves training integrity, effectiveness, efficiency and relevance by quickly identifying training activities that could be impacted by a change to a mission, system, job, policy or publication; facilitates reusability and collaboration by storing all data in a centralized database that can be accessed anytime and from anywhere by all team members with only a browser; simplifies data collection from Subject Matter Experts through custom build Excel spreadsheets; speeds data analysis; simplifies data manipulation; tracks changes made by each team member; and generates dozens of reports in a single click. ADVISOR is also web based, can be installed on a local Server or used off BNH Server (cloud option), consists of 8 modules that can be used separately or in combination to meet various needs, and can be customized in line with requirements.

More specifically, follows are ADVISOR "Performance Analysis" module features and benefits.

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Job and Performance Analysis: Identify Jobs and Tasks that contribute to performance gaps. Assess ability to perform to desired standard.

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Root Cause Analysis: Quickly zero in on the root cause of a performance deficiency by considering crew and supervisors' feedback, tools, policies and work environment to identify viable solutions.

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Joyce Miligan
Training Manager, New Brunswick Tel

1.3 System Requirements

Database/Server Minimum Requirements
- 2 CPU Processor with 4GB of RAM
- 5 GB of free Hard Disk Space
- Windows 2000, 2003, 2008, 2012 R2, 2016, 2019, 7, 8, 8.1, 10, NT, **or** Sun Solaris 9.0 or higher, **or** Linux Red Hat 6.0 or higher
- Web Server that supports Java Virtual Machine and can run Java Servlet. Supported products include: Tomcat 4.0 or higher, IBM WebSphere 4.0 or higher, Resin, Oracle Application Server, Jserv and others…
- Oracle version 9i, 10g, 11g, 12c, 18c or 19c

Workstation/Desktop Minimum Requirements
- Pentium IV with 512 MB RAM
- 200 MB of free Hard Disk Space
- Windows 98, ME, XP, VISTA, 7, 8, 10, NT, 2000, 2003, 2008, 2012 R2, 2016, 2019 or Oracle Solaris 9.0 or higher **or** Linux Red Hat 6.0 or higher
- Internet Explorer 6.0 or higher, Microsoft Edge, Mozilla Firefox 3.0 or higher, Google Chrome, or Safari

1.4 Background Theory: HPI Process

Human Performance Improvement (HPI) is the systematic process of discovering and analyzing important human performance gaps, planning for future improvements in human performance, designing and developing cost-effective interventions to close performance gaps, implementing interventions, and evaluating financial and non-financial results (Zemke & Kramlinger 1982; Mills 1988; Rummler & Brache 1995; Gilbert 1996; Kaufman 1996; Pipe & Mager 1999; Harless 2000, and Stolovitch & Keeps 2004). A schematic representation of the HPI process is presented below.

Step 1. Problem Definition

Define the problem and validate assumptions. In other words, who initiated the request for analysis or training, and for what reason? Based on circumstantial evidence and constraints, the validity of the request can be evaluated, the cost of problem estimated and need for further analysis confirmed.

Step 2. Business Analysis

The minimum (best-case scenario) and maximum (worst-case scenario) monetary impact of the problem or opportunity on performance can be estimated. The business analysis can take into account the impact on productivity, costs, time and quality.

Step 3. Job Analysis

Identify potential sources of the problem. Sources may reside to a varying degree within multiple jobs in various units/divisions. For example, "the unexpected drop in market share may have originated from sales, marketing, customer service and support staff".

For Each Job (Occupation)

Step 4. Performance Analysis

Evaluate the ability of each job to adequately perform the Tasks needed to achieve the desired goal. Should the evaluation reveal a performance deficiency (i.e., a gap between desired and actual Task performance), a root cause analysis may be performed to determine the source of the problem as well as plausible solutions.

For Each Task

Step 5. Root Cause Analysis

Collected data is analyzed to uncover factors that impact the performance of each job. These may include employees' lack of knowledge and skills, misunderstanding of job functions, misinterpretation of rules/regulations, access to tools, conflict with colleagues, and so on.

Step 6. Plausible Solutions

Once the cause of the problem has been uncovered, interventions for each job are identified and rated in terms of their potential to bridge the performance gap. In addition to training and job aids, plausible solutions may include task, job and/or organizational redesign, new/improved tools, policies/procedures, incentive system and hiring practices.

For Each Plausible Solution

Step 7. Feasibility Analysis

Identify implementation issues. Assess the feasibility and effectiveness of plausible solutions by examining the availability of money and resources, compatibility with existing systems, as well as management, supervisors and employees' attitudes towards the proposed solutions.

Step 8. Cost Analysis

Forecast solutions' costs and potential benefits. Capture all costs pertaining to each intervention, including personnel time, lost opportunity, travel, development, facilities, equipment and perpetuation.

Step 9. ROI Analysis

With costs and potential benefits in hand, anticipated return on investment (ROI) from each solution is calculated.

Step 10. Prioritize Actions

Prioritize the recommendations and prepare a plan of action. The costs and benefits of plausible solutions for all jobs are compiled and compared to provide a clear picture of which interventions will generate the greatest impact and why.

1.5 Getting Started

To log on to ADVISOR Enterprise, go to http://www.bnhexpertsoft.com, click on "**Log in**", input your Username and Password, and click [Login]. A Popup Window with step by step instructions is presented to familiarize you with ADVISOR. You may change your username, password and preferences by clicking on the **Preferences** node under the **Personalize** tab, editing the required items and clicking [**Save**]. For example, you may hide or display the Popup Window under the [**Options**] tab under the **Preferences** node by placing or removing the checkmark next to the ADVISOR Tour field and clicking [**Save**]. Context sensitive online help is also available for each field by clicking on [**Help**].

To make the most out of ADVISOR Enterprise, Chapters 2 through 6 should be thoroughly reviewed to gain clear understanding of the system's capabilities and how to configure ADVISOR to best meet your needs. For example:

➢ How to setup/configure Clients in line with project needs; i.e., data to be collected, analysis to be conducted and delivery options to be considered?
➢ How to setup User Accounts and assign privileges?
➢ How quality and consistency should be controlled?

1.6 How is ADVISOR Organized?

ADVISOR has five main components organized within 3 windows (top, left and right – the sizes of the windows can be adjusted by dragging the border). Once you become familiar with these components, the system operation and navigation will become fairly simple.

a) Basic Functions (top window) – Actions available to user are presented at the top of the screen. You can Add, Save, Copy, Delete, Merge, Diverge, add comments/assumptions to a screen (Notes), Print a screen, Return to previous level (Up), Restore previous values, display context sensitive Help or Logout. Information is only saved when you click [**Save**].

b) Path (top window) – Tracks your progress as you navigate through ADVISOR.

c) Tree (left window) – Lists options (nodes) available to user. To expand an option (node), click on the [▶] icon. To view the contents of an option (node), click on corresponding node.

d) Tabs (top of right window) – Data for some nodes are divided into several tabs. Click on tab to view its contents.

e) Main Window (right window) – Content of each screen is presented in this window.

1.7 Basic ADVISOR Functions

Add: To add a Project, Mission, Job, Task, Objective, Course or any other element:
Step 1: Click on corresponding folder (Projects, for example).
Step 2: Click [**Add**].
Step 3: Input the desired info.
Step 4: Click [**Save**].

Edit: To edit a Project, Mission, Job, Task, Objective, Course or any other element:
Step 1: Click on corresponding element (Project A, for example).
Step 2: Modify the desired info.
Step 3: Click [**Save**].

Delete: To delete a Project, Mission, Job, Task, Objective, Course or any other element:
Step 1: Place checkmarks next to the desired records (Project Management Office, for example).
Step 2: Click [**Delete**].

Track Changes: To find out when an element was created, modified or deleted and by whom, click on the View History 🕐 icon to display relevant data.

Edit Multiple Records: To edit multiple Projects, Missions, Jobs, Tasks, Objectives, Courses or any other elements:

Step 1: Click on the corresponding folder.

Step 2: Click on the **Edit All** ⎘ icon.

The Projects, Missions, Jobs, Tasks, Objectives, Courses, and so forth are presented in an Excel like tabular format. You may sort the data on any column (Title, for example), or lock (prevent the column from scrolling), by clicking on the arrow to the right of the column title, and selecting desired option. To edit a field, click on the field, input or select option. Once the desired fields/records are edited, click on [**Save**] to save all changes.

Modify Hierarchy: To change the hierarchy or the order of Tasks or Objectives:

Step 1: Click on the corresponding folder.

Step 2: Click on the **Edit Tree** ⛓ icon.

Tasks or Objectives are presented in a tree like structure. To change the hierarchy or order, simply drag and drop the tasks or objectives to the desired locations. All links to Missions, Jobs, Objectives, Courses, etc.; as well as attributes including Knowledge, Skills, Attitudes, References and so forth are preserved. For example, "Perform risk analysis" sub task may be dragged under the Tasks folder to become a Task. Moreover, all its links and attributes will remain intact. You may also view and edit the attributes of any Task or Objective by right clicking on the Task and selecting the Edit option. Once record is edited, click on [**Save**] button above the record to save; and the [**Save Tasks**] button to save hierarchy changes.

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Search and Copy: You can search and copy Jobs, Tasks and Performance Objectives as follows:

Step 1: Click on the desired folder – Job Analysis, Tasks Analysis or Performance Objectives.

Step 2: Click on the [**Search**] tab.

Step 3: Select the desired search criterion and click [**Save**] – more options may be provided – to display available elements.

Step 4: Select the desired item to copy data from and click [**Save**].

Step 5: Place checkmarks next to the desired elements (Tasks, for example) and click [**Save**] to copy the elements (Tasks) including attributes and sub elements (Sub Tasks).

Import Data: Dozens of Excel Spreadsheets are provided (http://www.bnhexpertsoft.com/data-collection-forms-configuration-version-12/) to simplify and speed offline data collection from Subject Matter Experts (SMEs). The attributes and options within each form (Job Tasks, for example) are identical to the corresponding (Job Tasks) fields within ADVISOR. Once completed, the data can be uploaded to ADVISOR Enterprise with a few mouse clicks, as follows:

Step 1: Click on the folder where data should be imported. Please note that each spreadsheet is designed to import data under a specific folder within ADVISOR Enterprise. For example, the Mission Tasks spreadsheet is designed to import Tasks under Missions, while the Job Tasks spreadsheet is designed to import Tasks under Jobs.

Step 2: Click on the [**Import**] tab.

Step 3: Click [**Choose File**] and select the desired spreadsheet.

Step 4: Indicate which row to start importing data from, in the **Start From Row** field. The top 4 rows in ADVISOR Excel spreadsheets are reserved for headings and instructions. Collected data typically starts on the 5th row.

Step 5: Indicate where the data for each field resides within the Excel spreadsheet. For example, if Task Title is stored in column 1, then input 1; and so forth. Data in Excel spreadsheets is sequentially mapped to corresponding fields in ADVISOR. You are not required to import all attributes. For example, if the Status and Task Classification attributes are not required, do not input column numbers for these fields. ADVISOR will not import data for attributes that have not been assigned a column number.

Step 6: Click [**Save**] to import.

Note: **Reference Code** is also used for detecting duplicate records. For example, if Job Task is imported, ADVISOR will 1st verify whether the Job already has a Task with the same Reference Code. If it does, the following message will appear "Duplicate Records already exist. Overwrite attributes?" If Ok is selected, the attributes of the Job Task in ADVISOR will be updated. If Cancel is selected, the import will be aborted.

Setup and Assign Meta Tags: To minimize duplication each time a Mission, System or Project Task is added, it is stored in a centralized repository. The Tasks can, in-turn, be assigned to any Mission or System by clicking on the [**Select**] tab, placing checkmarks next to desired Tasks and clicking [**Save**].

Similarly, Knowledge, Skills and Attitudes (KSAs) are stored in a centralized repository and can be assigned to any Task or Objective.

To quickly zero in on desired Tasks or KSAs within a repository, Meta Tags can be created under the Project Knowledge/Skills Attribute folder and assigned to any Task or KSA by clicking on [**Meta Tag**] tab, selecting the desired Meta Tags and clicking [**Save**].

Specify Items per Page: By default, 10 items (such as Projects, Tasks, Objectives, Knowledge/Skills, and so forth) are displayed on each page. Once the number of items exceeds 10, the remaining items are displayed on subsequent pages. The number of pages available for each item is indicated on the top right as shown below. To display the items within each page, click on the corresponding page number.

You can modify the number of items to be displayed on each page under [**Options**] tab for the **Preferences** node under the **Personalize** tab by specifying the number of items to be displayed on each page and clicking [**Save**].

Limit Access to Data/Analysis: By default, when a new Project, Job, Task, and so forth is created, its **Status** is set to **Public** to permit other Users to find, copy and reuse the Project, Job or Task using the Search function and in-turn minimize the effort needed to conduct the analysis. This does not imply that other Users can review and edit your Project, Job or Task. It simply implies that they can reuse. To maintain anonymity, you can set the Project, Job or Task Status to **Private**, and in-turn exclude them from the Search function.

Collaborate with Team: Each analysis including Project, Course and so forth is assigned to a specific User (Manager) – typically the individual that created the Project or Course. By default, only the Manager can view the Project or Course and make changes. To allow other Users to review and make changes, the Project or Course can be shared with them by clicking on the [**Sharing**] tab, placing checkmarks next their name and clicking [**Save**]. If the Project or Course Manager reports to another User, the Project or Course will be automatically shared with them. In this case, the checkmark next to the Supervisor name is presented in read only mode.

Add Notes: Users may add a Note to any screen by clicking on [**Notes**], typing the note in the new window and clicking [**Save**]. Notes from other Users are presented in read only mode in the bottom of the window. Users can only edit or delete their own Notes.

1.8 Learning ADVISOR

To use ADVISOR, you should know how to perform basic computer, Windows and Browser operations. For example, how to start and quit applications, select commands and dialog box options. To facilitate the learning process, ADVISOR comes with its own set of online tools. These include:

➢ **Online Tour:** a slide show that highlights ADVISOR's main features. It is presented after User logs on ADVISOR. You can hide and redisplay by unchecking or rechecking the ADVISOR Tour field under the [**Options**] tab, under the Preferences node under the **Personalize** tab and clicking [**Save**].

➢ **Video Clips** to gain a better understanding of ADVISOR's main functions and features. To view, please visit the following: http://www.bnhexpertsoft.com/how-to-video-overview/ .

➢ **Step-by-Step Guides** for configuring ADVISOR, as well as conducting mission analysis, system analysis, competency analysis, job task analysis, media analysis, cost analysis, fidelity analysis, performance analysis, etc. To view and download, please visit the following: http://www.bnhexpertsoft.com/user-guides-version-12/,

➢ **Answers to Frequently Asked Questions** are available online at: http://www.bnhexpertsoft.com/faq-1-install/.

➢ **Context Sensitive Online Help** can be displayed for each screen by clicking on [**Help**]. Context sensitive video clips are also embedded throughout ADVISOR and can be viewed by clicking on the video 🎥 icon.

> - **Basic Excel Data Collection Forms** for various ADVISOR data elements along with data import instructions are available online at: http://www.bnhexpertsoft.com/data-collection-forms-configuration-version-12/.

> - **Detailed Excel Data Collection Forms** for Project Tasks, System/Competency Tasks and Job Tasks along with data import instructions are available online at: http://www.bnhexpertsoft.com/detailed-data-collection-forms-version-12/ .

> - **Sample Reports** from each module are available online at: http://www.bnhexpertsoft.com/reports/.

> - **Technical Support:** Available 8:00 am to 6:00 pm EST by calling 1 (514) 745-4010. You may also fax your questions to 1 (514) 745-4011 or E-mail to support@bnhexpertsoft.com.

1.9 References

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Chapter 2: Define Problem and Impact

2.1 Introduction

"I need a training program on ..." is often the opening statement in what turns out to be a costly, frustrating and unsuccessful campaign to achieve the desired performance. The rational for training seems clear. We are implementing a new system, receiving too many complaints from our clients, not selling enough products, etc.

Prominent researchers have demonstrated that most performance deficiencies in the workplace are due to environmental factors which include vague expectations, insufficient and untimely feedback, limited access to required information, inadequate tools, resources and procedures, inappropriate and counterproductive incentives, etc. Yet, when a performance gap occurs, the default intervention is all too often training – although it is much easier to fix the environment than people. To put it in simple terms – if the performance gap is not due to a lack of skills and knowledge, don't train!

Even when you determine that training is necessary, is it sufficient? A training injection on its own, rarely works if it is not part of a total performance system.

ADVISOR is a powerful Training Management System (TMS). It analyzes a performance deficiency, detects the source of the problem, identifies solutions – including training – that can produce the desired level of productivity and recommends actions to maximize your return on investment (ROI). ADVISOR is based on the published work of several experts in the field of Human Performance Technology including Zemke & Kramlinger (1982), Rummler & Brache (1995), Pipe & Mager (1999), Harless (2000), and Weisbord (2002). It guides you through the entire needs assessment and ROI process, offers valuable insight on what should be taken into consideration and why, and most importantly, it is simple to use.

ADVISOR generates concise charts and tables to effectively communicate the results to others, and provides comprehensive reports to support your decision. With ADVISOR you will never have to wonder whether you have made the right choice.

To determine how much time and resources should be allocated to a perceived problem/opportunity, the scope of the problem/opportunity should first be defined and the assumptions validated. In other words, who initiated the request for the analysis or training, and for what reason? Based on circumstantial evidence and constraints, the validity of the request can be evaluated, the cost of the problem or the value of the opportunity estimated and the need for further analysis confirmed. The minimum (best-case scenario) and maximum (worst-case scenario) monetary impact of the problem or opportunity on performance can also be projected.

Note: It is assumed that the Project and Missions/Goals are already defined. If not, please refer to the ADVISOR Training Analysis User Guide[1] for details on setting up Projects, Missions/Goals, Jobs and Tasks.

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[1] http://www.bnhexpertsoft.com/user-guides/

2.2 Identify Performance Gaps

To investigate the gaps between desired and actual performance key parameters should 1st be defined within a Project. These would include the Missions/Goals (i.e., what we are trying to achieve), the Tasks needed to achieve these Missions/Goals, who is performing each Task, desired outcomes and Performance Objectives. If key parameters have not been defined, please refer to ADVISOR Mission Analysis Step by Step Guide or ADVISOR Training Analysis User Guide on how to setup. Once the Project and key parameters have been setup, the Project to be investigated can be selected as follows:

Step 1: Click on the 🗀Performance Analysis folder, under the [**Evaluate**] tab.
Step 2: Place checkmark next to the Projects you wish to investigate.
Step 3: Click [**Save**] to create the 📋 (**project title**) node under the 🗀Performance Analysis folder.

To identify which Goals are not being met.
Step 4: Click on ▶ next to the 📋 (**project title**) node to expand.
Step 5: Click on the 🗀Mission Evaluations folder.
Step 6: Click [**Add**].
Step 7: Input the Evaluation Date, Trigger (i.e., reason for initiating the assessment), Mission/Goal under investigation, Actual Performance, Annual Impact, whether the performance gap is significant and if monetary (Actual) impact should be estimated using performance indicators. Data required by ADVISOR is identified by a red asterisk (*). The more data you provide, the better the results.
Step 8: Click [**Save**].

The **Desired Performance** field is automatically populated after you click [**Save**] from the corresponding Mission/Goal Standards field under the **Analyze** tab.

Notes:

➢ The Actual Performance should be reported in a similar format to the Desired Performance to facilitate the identification of the performance gap.

➢ If the monetary impact of the problem or opportunity is:
   ❑ Available. Input the Annual Impact and lock 🔒 the value.
   ❑ Not available. The Performance Indicators defined under the 📋**Performance Indicators** folder can be used to estimate the Annual Impact. In this case:
      ❖ Select Yes for **Estimate Monetary Impact** field to display the 📋**Performance Indicators** folder and the 📋**Summary** node under the 📋(**mission evaluation**) node; and
      ❖ Unlocked 🔓 the **Annual Impact** field to automatically retrieve and report the average monetary value computed under the 📋**Summary** node.

➢ If the **Performance Gap** is Acceptable or Not Applicable, then there is no need to carry on further with the analysis.

➢ Each Mission/Goal evaluation can be archived as many times as you need. Once an analysis is archived, changes to the current analysis will not impact data in archived versions. To archive an analysis, click on the 📋(**mission/goal title**) node, then click on the [**Archive**] tab, input the Version Title and click [**Save**]. The date on which the archive was created is automatically saved with the Version Title. A list of archived versions is available under the [**View**] tab. You may view an archived version in read only mode by placing checkmark next to its title and clicking [**Save**]. You can delete as well as recover an archived version (i.e., overwrite existing version) by selecting corresponding tabs. Of course, if an analysis is deleted, all archived versions of the analysis are automatically deleted as well.

Step 9: To input evidence supporting the current level of performance, click on the [**Evidence**] tab.
Step 10: Input evidence and date.

Note:

➢ Evidence should supplement the initial event that triggered the evaluation. Evidence may include:
  ❖ Line manager's comments
  ❖ Individual personnel comments
  ❖ Audits or inspections
  ❖ Changes in policies
  ❖ Safety reports
  ❖ Lessons learned reports
  ❖ Unit readiness reports
  ❖ Material readiness reports
  ❖ Introduction of a new piece of equipment
  ❖ Identification of a new or changed competitor
  ❖ Introduction of new job or restructuring of existing job profiles (specialty codes)

Step 11: To input the reliability of collected or examined evidence, click on the [**Reliability**] tab.
Step 12: Input factors considered in assessing the reliability of the evidence.

Note:

➢ The following factors should be considered when evaluating the reliability of formal and informal data:

Formal Reports:
  ❖ Availability of supporting data
  ❖ Sample size and use of statistical procedures
  ❖ Sample size and assumptions related to the scalability of the problem
  ❖ Differing opinions
  ❖ Degree to which report confirms hypothesis
  ❖ Degree to which report confirms other assessments or actions
  ❖ Precision of collected data
  ❖ Reasoning used to draw conclusions
  ❖ Expert's collaboration

Informal Data
- ❖ Personal knowledge of individuals providing the data
- ❖ Level of detail
- ❖ Relationship to Task
- ❖ Availability or lack of supporting data
- ❖ Sample size and assumptions related to the scalability of the problem
- ❖ Differing opinions
- ❖ Degree to which data confirms hypothesis
- ❖ Degree to which data confirms other assessments or actions

Step 13: To document problems encountered in collecting data and venues used to overcome difficulties, click on the [**Difficulties**] tab.

Step 14: Describe difficulties encountered in data collection.

Step 15: Click [**Save**].

2.3 Create Performance Measures

To assist analysts in estimating the monetary value of a problem or opportunity, monetary measures can be created. To define a Monetary Measure:

Step 1: Click on the 📋**Performance Indicators** folder under the 🗂 (**Project**) node.
Step 2: Click [**Add**].
Step 3: Input the Performance Measure Title and Formula used to compute the monetary value.
Step 4: Click [**Save**] to create the Performance Indicator.

Notes:
➢ The Formula should capture how the monetary value of a Performance Measure is computed. It should be written in a generic format to facilitate computations under various scenarios.

➢ The following operators can be used in composing a formula: "+" [Add], "-" [Subtract], "/" [Divide], "*" [Multiple] and "( )" [Group].

➢ Each variable in the formula should be presented as one string, i.e., should not include spaces.

- Example #1: The annual monetary value of productivity improvement in a call center may be measured as follows:

  Calls*DaysPerYear*Employees*Value*Improvement/100

  Where:
  - ❖ Calls   = Average # of Calls Handled per Employee [per day]
  - ❖ DaysPerYear   = Average # of Days an Employee works per Year
  - ❖ Employees   = # of Employees that handle calls
  - ❖ Value   = Average Monetary Impact/Value [per call]
  - ❖ Improvement   = Potential Improvement [%]

- Example #2: The annual monetary impact of improving aircraft inspections may be measured as follows:

  Inspections*Technicians*Value*Improvement/100

  Where:
  - ❖ Inspections   = Average # of Inspections Handled per Technician [per year]
  - ❖ Technicians   = # of Individuals that Inspect Aircrafts
  - ❖ Value   = Average Cost [per inspection]
  - ❖ Improvement   = Potential Improvement [%]

  By expressing Performance Measures in this format, monetary impact of performance improvement can be readily computed, for any size call center or aircraft inspection facility.

To provide a brief description for the variables in the formula:

Step 5: Click on ▶ next to the ▯(**Performance Measure**) node to expand.

Step 6: Click on the ▯**Variables** node.

Step 7: Input the description.

Step 8: Click [**Save**].

Variable Name	Description
CostPerCycle	Cost Per Cycle
MaintenanceCycle	# of Scheduled Maintenance Cycles
ProductivityGained	Anticipated % of Productivity Gained

2.4 Estimate Monetary Impact of Problem

Performance Measures (Section 2.3) may be used to assess the financial impact of performance deficiencies in multiple Missions/Goals. To estimate the monetary impact of a problem or an opportunity on a Mission/Goal:

Step 1: Click on ▶ next to the ▯ (**Mission Evaluation**) node to expand.
Step 2: Click on the 🗀 **Performance Indicators** folder underneath.
Step 3: Place checkmarks next to relevant measures (created under Section 2.3) to assess the monetary impact of performance deficiency on the Mission/Goal.
Step 4: Click [**Save**].

Selected Performance Measures are presented under the 🗀 **Performance Indicators** folder.

Step 5: Click on the ▯ (**Performance Measure**) node to display relevant fields (i.e., variables in Formula).
Step 6: Input the required data.
Step 7: Click [**Save**] to compute the minimum and maximum monetary impact of this measure on the Mission/Goal.

Step 8: Click the ▢ **Summary** node to view the compiled results of all Performance Measures.

The average monetary value [(minimum + maximum) / 2] of all Performance Measures is transferred to the **Actual Impact** field under the ▢ (**Mission Evaluation**) node, if the field is unlocked 🔓.

Step 9: Click on the ▢ (**Mission Evaluation**) node to view the estimated monetary impact of performance deficiency on Mission/Goal.

Chapter 3: Evaluate Performance

3.1 Introduction

If the problem or opportunity is significant and further analyses are warranted, then the performance of individuals that support the Mission/Goal should be investigated. In other words, are the Tasks that directly support the Mission/Goal adequately performed? For example, "drop in market share" may be due to the performance of sales, marketing, customer service and support staff. Should the evaluation reveal a performance deficiency (i.e., a gap between desired and actual Task performance), a root cause analysis can be performed to determine the source of the problem and identify plausible solutions.

Note: It is assumed that Job and Task analyses have already been conducted. If not, please refer to _ADVISOR Training Analysis User Guide on how to setup Jobs (Occupations), Tasks and Objectives for each Job, as well as indicate their impact on Missions/Goals._

3.2 Identify Potential Sources to the Problem

To zero in on the source of the problem, all Performance Objectives (POs) that impact the Mission/Goal should be identified along with who is responsible for performing them. If Job Task Analysis has been conducted and POs defined including impact on Mission/Goal (Mission Analysis Step by Step Guide), ADVISOR will automatically identify all corresponding Jobs and (POs) that may impact the Mission/Goal. Otherwise, you can add Jobs and POs as follows:

Step 1: Click on the 🗀Job Analysis folder.

Step 2: Place checkmarks next to relevant Jobs.

Step 3: Click [**Save**] to list selected Jobs under the 🗀Job Analysis folder.

3.3 Evaluate Tasks Performance

To find out if a gap exists between desired and actual Task performance:

Step 1: Click on ► next to the 🗀Job Analysis folder to expand.

Step 2: Click on ► next to the ▯Job node to expand, and click on the 🗀Performance Analysis folder.

Step 3: Click [**Add**].

Step 4: Input the Evaluation Date, Trigger (i.e., reason for initiating the assessment), Objective (Task) under investigation, Actual Performance, whether the Performance Gap is significant and if root cause analysis is needed to identify the source of the problem and plausible solutions.

Notes:

➢ Only POs that have been setup for the Job under the **Analysis** tab can be investigated. If none have been defined, please refer to ADVISOR Mission Analysis Step by Step Guide or Training Analysis User Guide on how to conduct Job Task Analysis.

➢ Once Jobs and POs that impact Missions/Goals have been created, Jobs and POs that impact a specific Mission/Goal can be identified by clicking on the ☐ **Goals Top Down View Report** node under the ☐**Project Reports** folder.

➢ The Actual Performance should be reported in a similar format to the Desired Performance to facilitate the identification of the performance gap.

➢ If the **Performance Gap** is Acceptable or Not Applicable, then there is no need to carry on further with the analysis.

➢ If the Performance Gap is Significant, then "Yes" should be selected for **Perform Root Cause Analysis** field. This will in-turn display the ☐**Root Cause Analysis** folder, the ☐ **Plausible Solutions** node, and the ☐ **Report** node under the ☐ (**objective**) node to identify the source of the problem and potential solutions.

➢ Each Performance Analysis can be archived (i.e., preserved) as many times as you need. Once archived, changes to the current analysis will not impact data in archived versions. To archive an analysis, click on the ☐ (**objective**), then click on the [**Archive**] tab, input the Version Title and click [**Save**]. The date on which the archive was created is automatically saved with the Version Title.

➢ A list of archived versions is available under the [**View**] tab. You may view an archived version in read only mode by placing checkmark next to the title and clicking [**Save**]. You can also delete as well as recover an archived version (i.e., overwrite existing version) by selecting corresponding tabs. Of course, if an analysis is deleted, all archived versions of the analysis are automatically deleted as well.

Step 5: Click [**Save**]. The **Desired Performance** field is automatically populated from the corresponding PO Standards field under the **Analyze** tab.

Step 6: To input evidence supporting the current level of performance, click on the [**Evidence**] tab.

Step 7: Input the evidence and date.

Note:

➢ Evidence should supplement the initial event that triggered the evaluation. Evidence may include:

❖ Line manager's comments

❖ Individual personnel comments

❖ Audits or inspections

❖ Changes in policies

❖ Safety reports

❖ Lessons learned reports

❖ Unit readiness reports

❖ Material readiness reports

❖ Introduction of a new piece of equipment

❖ Identification of a new or changed competitor

❖ Introduction of new or restructuring of existing job profiles (specialty codes)

Step 8: To input the reliability of collected or examined evidence, click on the [**Reliability**] tab.

Step 9: Input factors considered in assessing the reliability of the evidence.

Note:

➢   The following factors should be considered when evaluating the reliability of formal and informal data:

Formal Reports:
   ❖   Availability of supporting data
   ❖   Sample size and use of statistical procedures
   ❖   Sample size and assumptions related to the scalability of the problem
   ❖   Differing opinions
   ❖   Degree to which report confirms hypothesis
   ❖   Degree to which report confirms other assessments or actions
   ❖   Precision of collected data
   ❖   Reasoning used to draw conclusions
   ❖   Expert's collaboration

Informal Data
   ❖   Personal knowledge of individuals providing the data
   ❖   Level of detail
   ❖   Relationship to Task
   ❖   Availability or lack of supporting data
   ❖   Sample size and assumptions related to the scalability of the problem
   ❖   Differing opinions
   ❖   Degree to which data confirms hypothesis
   ❖   Degree to which data confirms other assessments or actions

Step 10: To document problems encountered in collecting data and venues used to overcome difficulties, click on the [**Difficulties**] tab.

Step 11: Describe difficulties encountered in data collection.
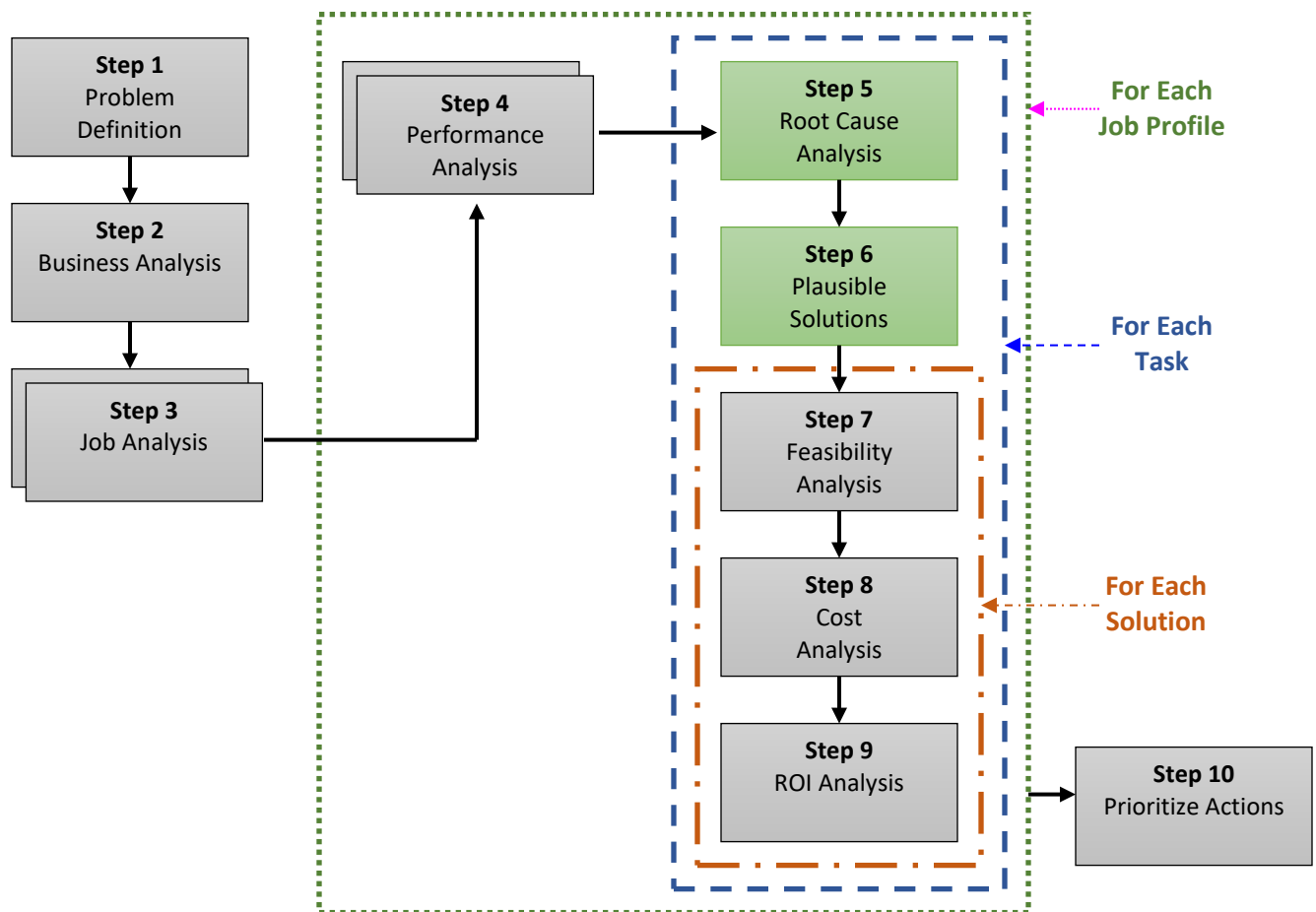
Step 12: Click [**Save**].

Note:

➢ Repeat this process for each Performance Objective under each Job.

Chapter 4: Conduct Root Cause Analysis

4.1 Introduction

Should the evaluation reveal a performance deficiency – i.e., a gap between the desired and actual Task performance, a root cause analysis should be conducted to determine the source of the problem, which may include: lack of knowledge and skills, misunderstanding of job functions, misinterpretation of rules/ regulations, access to tools, conflict with colleagues, and so on – as well as identify and rate plausible solutions in terms of their power to bridge the performance gap. In addition to training and job aids, plausible solutions may include task, job and/or organizational redesign, new/improved tools, policies/ procedures, incentive system and hiring practices.

```
Step 1            Step 4              Step 5           For Each
Problem           Performance         Root Cause       Job Profile
Definition        Analysis            Analysis

Step 2                                Step 6
Business Analysis                     Plausible        For Each
                                      Solutions        Task

Step 3                                Step 7
Job Analysis                          Feasibility
                                      Analysis

                                      Step 8           For Each
                                      Cost             Solution
                                      Analysis

                                      Step 9           Step 10
                                      ROI Analysis     Prioritize Actions
```

4.2 Data Collection Methods

Root cause analysis is based on informative clues, much like putting together pieces of a puzzle. It is very helpful in exposing key issues behind a performance deficiency. Several methods can be utilized to acquire the necessary data. Each method has both advantages and limitations, and in many cases a combined methodology may provide the most effective approach to uncover the reasons behind a problem. The following methods of collecting data are suggested for your consideration:

➢ Individual Interviews – a common tool used to obtain opinions, attitudes and possible causes/ solutions for a problem.

➢ Focus Groups – provide a cost-effective way to secure and circulate information as well as bring people onboard when new ideas may be adopted.

➢ Document Searches – to uncover facts about the current operation that may not surface during interviews. For example, critical incident reports or production figures can provide a good assessment of the current situation.

➢ Observations – of employees on the job can reveal minute and subtle details of performance inadequacies or strengths.

➢ Questionnaires & Surveys – are a less obtrusive way to procure the same information generated by other methods. Moreover, they usually take up less time from participants.

➢ Nominal Groups – provide a forum for collecting and prioritizing findings about the nature and resolution of the problem(s).

4.3 Data Collection Questionnaires

To facilitate the data collection process, six questionnaires have been provided in Annex A. The forms may be completed during an interview or observation session, or handed out to participants.

Since collected data is required by Root Cause Analysis (Section 4.4), summary forms for each questionnaire are also included in Annex A, to assist in compiling data retrieved from multiple respondents.

4.4 Uncover Plausible Solutions

If the evaluation revealed a performance deficiency – i.e., a gap between desired and actual Task (PO) performance, root cause analysis is needed to determine the source of the problem and plausible solutions – which may include training, job aids, tools, changes to policies/procedures, and so forth. To initiate the analysis:
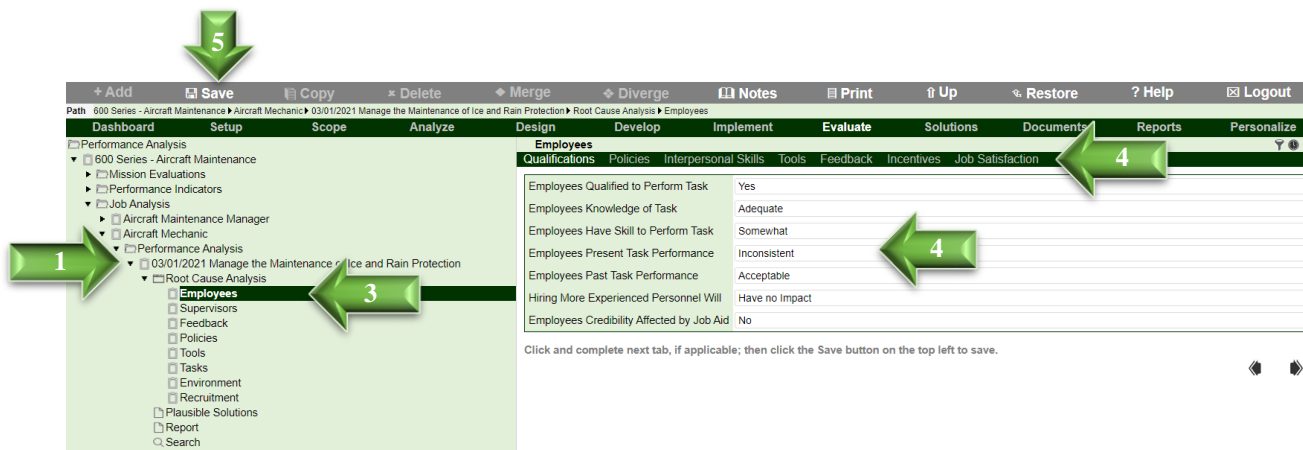
Step 1: Click on ▶ next to the ☐ (**objective**) node to expand.

Step 2: Click on ▶ next to the 🗁**Root Cause Analysis** folder to display the following eight (8) sections – ☐**Employees**, ☐**Supervisors**, ☐**Feedback**, ☐**Policies**, ☐**Tools**, ☐**Tasks**, ☐**Environment** and ☐**Recruitment**.

Step 3: Click on the ☐**Employees** node.

Step 4: Input Employees' related data such as [**Qualifications**] and adequacy of their Knowledge and Skills, understanding of [**Policies**], [**Interpersonal Skills**], dependency and access to [**Tools**], quality of [**Feedback**] received, attitude towards [**Incentives**] systems, and [**Job Satisfaction**] by clicking on the corresponding tabs.

Step 5: Click [**Save**].

Notes:

➢ Keep in mind that all questions are related to a specific Performance Objective.

➢ All fields under ☐**Supervisors**, ☐**Feedback**, ☐**Policies**, ☐**Tools**, ☐**Tasks**, ☐**Environment** and ☐**Recruitment** nodes should also be completed for an accurate assessment of plausible solutions.

➢ To facilitate data collection, six questionnaires have been provided in Annex A. The forms may be completed during an interview or observation session, or handed out to participants to complete.

Step 6: Click on the ⬜ **Plausible Solutions** node to view plausible solutions along with rating.

Step 7: To find out why a solution has been proposed, click on the solution title. The reasons, based on information provided, are presented at the bottom of the screen.

Notes:

➢ You may remove plausible solutions recommended by ADVISOR by setting their impact to blank (null) and locking 🔒 your selection; or recommending alternate solutions, by indicating their impact and locking 🔒 your selection. Click [**Save**] to update plausible solutions list.

➢ Plausible solutions may not necessarily be recommended. Final recommendations take into account the feasibility of implementing plausible solutions as well as their cost.

4.5 Define Requirements for Plausible Solutions

Should training, job aids, policies/procedures or tools be recommended, the corresponding nodes are presented under the ⬜Recommended Solutions folder. Additional details can also be provided for Training, Job Aids, Policies and Tools as follows:

4.5.1 Training

If Learning Objectives (LOs) needed to perform the objective have not been defined or there is a need to introduce new concepts, you may create new Learning Objectives. To identify training for a plausible solution:

Step 1: Click on ▶ next to the ⬜Recommended Solutions folder to expand.
Step 2: Click on ▶ next to the ⬜ Knowledge/Skills Training node to expand.
Step 3: Click on the ⬜Learning Objectives folder.
Step 4: Click [**Add**].
Step 5: Input Title, Reference Code, Length and Learning Outcome.
Step 6: Click [**Save**] to create.

Note:
➤ Learning Objectives provide clear statements of the Knowledge, Skills and Attitudes that individuals should possess in order to perform a Task. Learning Objectives should specify the conditions under which Knowledge and Skills should be exhibited and the standard to which it will be performed.

Implications:
➤ Learning Objectives can be assigned to Courses needed to develop the Knowledge, Skills and Attitudes necessary to perform Tasks at the desired level. Defining Learning Objectives is therefore critical for establishing clear links between training programs, Tasks and Missions/Goals, demonstrating the value of various Courses and aligning training with Organization/Units' Goals.

To display existing Learning Objectives for the Solution:

Step 7: Click on the [**Select Learning Objectives**] tab.

Step 8: Place checkmarks next to desired Learning Objectives – i.e., Learning Objectives needed by employees to perform the Task (Objective).

Step 9: Click [**Save**] to display selected Learning Objectives under the 📁**Learning Objectives** folder.

Note:

➢ [**Select Learning Objectives**] tab is displayed when Learning Objectives have already been defined during training analysis (ADVISOR Enterprise Training Analysis User Guide[2]).

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[2] http://www.bnhexpertsoft.com/user-guides-version-12/

The following function is only available for users with the "Training Analysis" module.

To keep Knowledge and Skills needed to perform various objectives current, Learning Objectives (LOs) added to plausible training solutions during Performance Analysis are presented under the Job Analysis. To access recommended LOs:

Step 10: Click on the **Analyze** tab.

Step 11: Click on ▶ next to the ☐ **(project)** node to expand.

Step 12: Click on ▶ next to the ☐ **Job Analysis** folder to expand.

Step 13: Click on ▶ next to the ☐ **(job)** node to expand.

Step 14: Click on ▶ next to the ☐ **Performance Objectives** folder to expand.

Step 15: Click on ▶ next to the ☐ **(objective)** node to expand.

Step 16: Click on ▶ next to the ☐ **Training** node to expand.

Step 17: Click on the ☐ **Recommended Learning Objectives** folder.

Step 18: Review Learning Objectives and if appropriate add (copy) recommended Learning Objective to the ☐ **Learning Objectives** folder, by placing a checkmark next to the **Add to Learning Objectives** field.

Step 19: Click [**Save**].

Notes:

➢ Once added, recommended Learning Objectives will appear under the ☐ **Learning Objectives** folder, and may be edited at that time.

4.5.2 Job Aids

To identify Job Aids for a plausible solution:

Step 1: Click on ▶ next to the 🗁Recommended Solutions folder to expand.

Step 2: Click on ▶ next to the ☐ Job Aids, node to expand.

Step 3: Click on the 🗁Job Aids folder.

Step 4: Click [**Add**].

Step 5: Input Title and Reference Code.

Step 6: Click [**Save**] to create.

To display existing Job Aids for this Objective:

Step 7: Click on the [**Select Job Aids**] tab.

Step 8: Place checkmarks next to desired Job Aids – i.e., Job Aids needed by employees to perform the Task (Objective).

Step 9: Click [**Save**] to display selected Job Aids under the 🗁Job Aids folder.

The following function is only available for users with the "Training Analysis" module.

To keep Job Aids needed to perform various objectives current, Job Aids added to plausible solutions during performance analysis are presented under the Job Analysis. To access recommended Job Aids:

Step 10: Click the **Analyze** tab.

Step 11: Click on ▶ next to the ☐ **(project)** node to expand.

Step 12: Click on ▶ next to the ☐**Job Analysis** folder to expand.

Step 13: Click on ▶ next to the ☐ **(job)** node to expand.

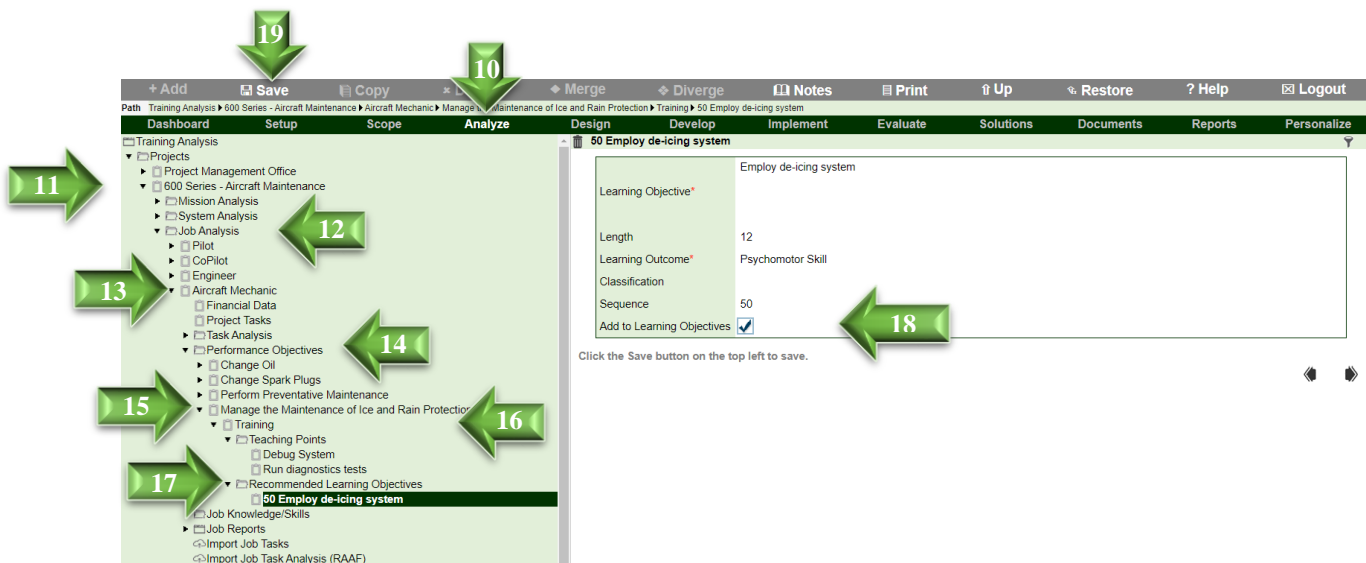**Step 14:** Click on ▶ next to the ☐**Performance Objectives** folder to expand.

Step 15: Click on ▶ next to the ☐ **(objective)** node to expand.

Step 16: Click on the ☐**Recommended Job Aids** folder.

Step 17: Review Job Aids and if appropriate add (copy) recommended Job Aid to the ☐**Job Aids** folder, by placing a checkmark next to the **Add to Job Aids** field.

Step 18: Click [**Save**].

4.5.3 Policies/Procedures

To identify policies/procedures for a plausible solution:

Step 1: Click on ▶ next to the 🗀**Recommended Solutions** folder to expand.

Step 2: Click on ▶ next to the ⬚ **Improve Policies/Procedures** to expand.

Step 3: Click on the 🗀**Policies** folder.

Step 4: Click [**Add**].

Step 5: Input Title and Reference Code.

Step 6: Click [**Save**] to create.

To display existing Polices for this Objective:

Step 7: Click on the [**Select Policies/Procedures**] tab.

Step 8: Place checkmarks next to desired Policies/Procedures – i.e., Policies/Procedures needed by employees to perform the Task (Objective).

Step 9: Click [**Save**] to display selected Policies/Procedures under the 🗀**Policies** folder.

The following function is only available for users with the "Training Analysis" module.

To keep Policies/Procedures needed to perform various objectives current, Policies/Procedures added to plausible solutions during Performance Analysis are presented under the Job Analysis. To access recommended Policies/Procedures:

Step 10: Click the **Analyze** tab.

Step 11: Click on ▶ next to the ☐ **(project)** node to expand.

Step 12: Click on ▶ next to the ▭**Job Analysis** folder to expand.

Step 13: Click on ▶ next to the ☐ **(job)** node to expand.

Step 14: Click on ▶ next to the ▭**Performance Objectives** folder to expand.

Step 15: Click on ▶ next to the ☐ **(objective)** node to expand.

Step 16: Click on the ▭**Recommended Policies** folder.

Step 17: Review Policies/Procedures and if appropriate add (copy) recommended Policy to the ▭**Policy** folder, by placing a checkmark next to the **Add to Policies** field.

Step 18: Click [**Save**].

4.5.4 Tools

To identify tools for a plausible solution:

Step 1: Click on ▶ next to the 📁**Recommended Solutions** folder to expand.
Step 2: Click on ▶ next to the 📋 **New Tools** to expand.
Step 3: Click on the 📁**Tools** folder.
Step 4: Click [**Add**].
Step 5: Input Title and Reference Code.
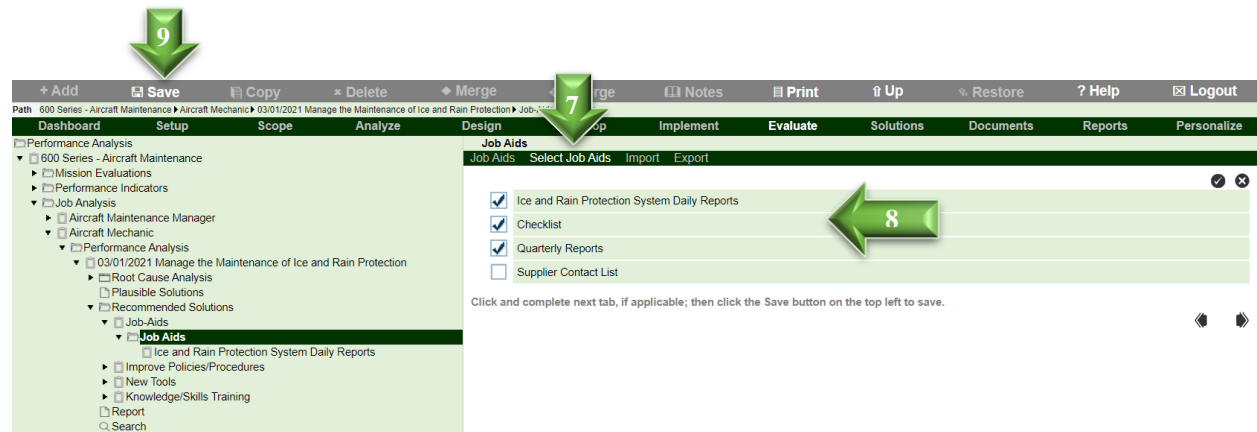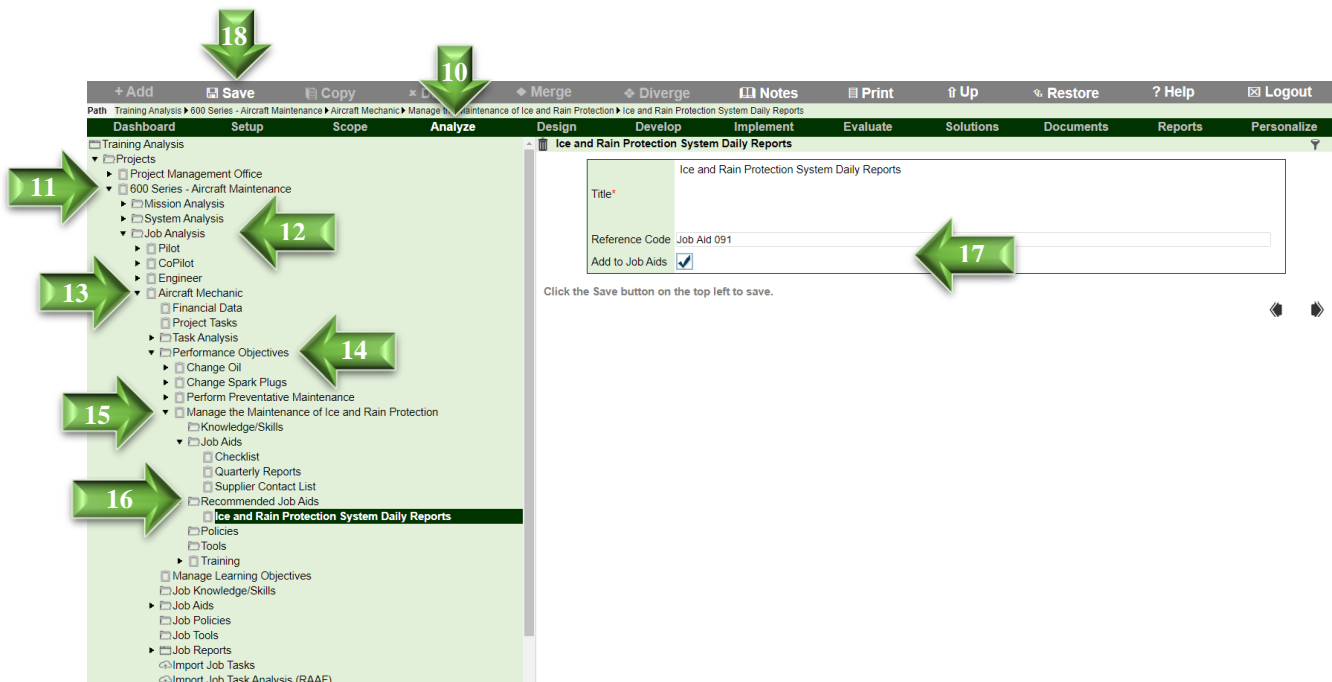**Step 6**: Click [**Save**] to create.

To display existing Tools for this Objective:
Step 7: Click on the [**Select Tools**] tab.
Step 8: Place checkmarks next to desired Tools - i.e., Tools needed by employees to perform the Task (Objective).
Step 9: Click [**Save**] to display selected Tools under the 📁**Tools** folder.

The following function is only available for users with the "Training Analysis" module.

To keep Tools needed to perform various objectives current, Tools added to plausible solutions during Performance Analysis are presented under the Job Analysis. To access recommended Tools:

Step 10: Click on the **Analyze** tab.

Step 11: Click on ▶ next to the ▯ **(project)** node to expand.

Step 12: Click on ▶ next to the ▭ **Job Analysis** folder to expand.

Step 13: Click on ▶ next to the ▯ **(job)** node to expand.

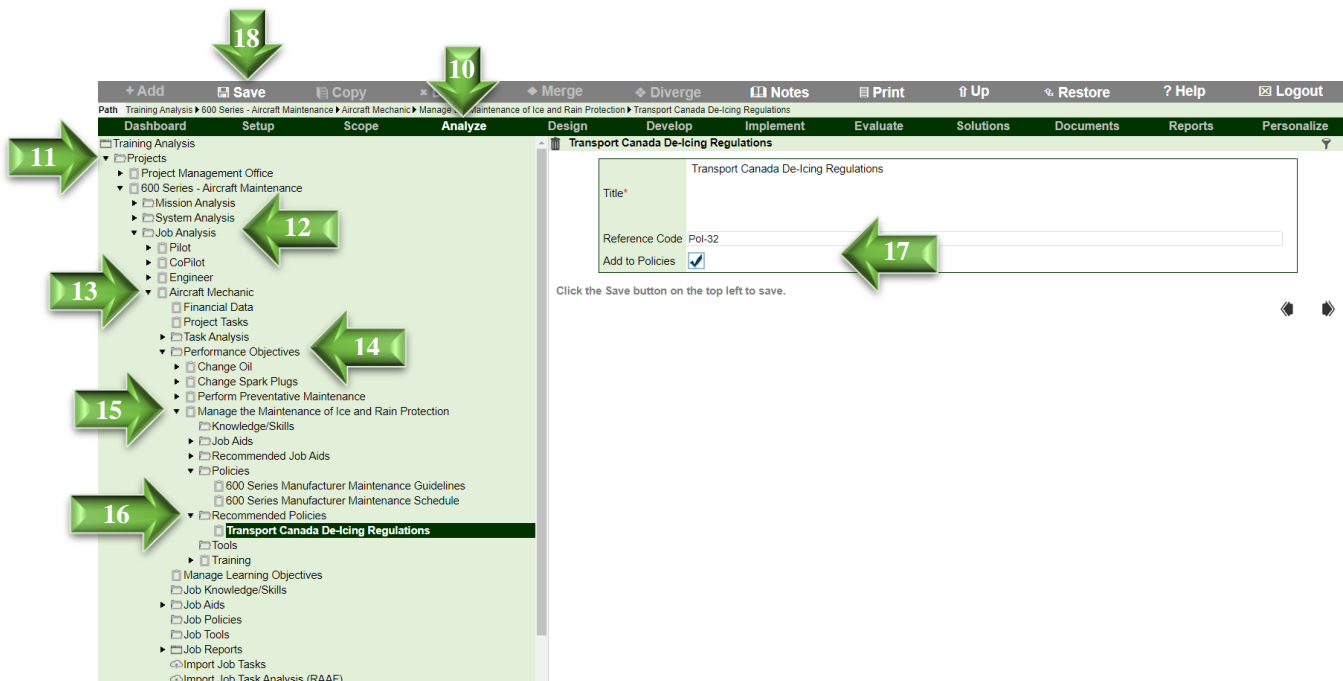**Step 14:** Click on ▶ next to the ▭ **Performance Objectives** folder to expand.

Step 15: Click on ▶ next to the ▯ **(objective)** node to expand.

Step 16: Click on the ▭ **Recommended Tools** folder.

Step 17: Review Tools and if appropriate add (copy) recommended Tool to the ▭ **Tool** folder, by placing a checkmark next to the **Add to Tools** field.

Step 18: Click [**Save**].

Chapter 5: Analyze Plausible Solutions

5.1 Introduction

The viability of plausible solutions can be determined by examining their compatibility with existing systems, money and resource requirements as well as management, supervisors and employees' attitudes towards the proposed solutions. If training solution is needed, two approaches are presented in ADVISOR Training Design User Guide for forecasting money and resources. For all other interventions, the process is presented in this Chapter. With costs and potential benefits in hand, anticipated return on investment (ROI) from each training program and solution can be calculated.

5.2 Setup Plausible Solutions

Plausible solutions viability can be determined by examining compatibility with existing systems, money and resource requirements as well as management, supervisors and employees attitudes towards the proposed solutions. With costs and potential benefits in hand, anticipated return on investment (ROI) from each solution can be calculated. Training solutions are setup under the **Design** tab (for details, please refer to the Training Design User Guide or Media Analysis Step by Step Guide). Non-training solutions are setup under the **Solutions** tab. To setup a non-training solution:

Step 1: Click on the **Solutions** tab.
Step 2: Click on ▢Solutions folder.
Step 3: Click [**Add**].
Step 4: Input general information, such as Solution Title, Solution Type, Expected Life, etc. Data required by ADVISOR is identified by a red asterisk (*). Of course, the more data you provide, the better the results.
Step 5: Click [**Save**] to create the Solution.

Notes:

➢ Each solution can be archived as many times as you need. Once archived, changes to the current analysis will not impact data in archived versions. To archive an analysis, click on the ▢ (**solution title**) node, then click on the [**Archive**] tab, input the Version Title and click [**Save**]. The date on which the archive was created is automatically saved with the Version Title.

➢ A list of archived versions is presented under the [**View**] tab. You may view an archived version in read only mode by placing checkmark next to its title and clicking [**Save**]. You can delete as well as recover an archived version (i.e., overwrite existing version) by selecting corresponding tabs. Of course, if a solution is deleted, all archived versions of the solution are automatically deleted as well.

➢ You may also share your analysis with colleagues (i.e., Users assigned to the same Client) by clicking on the Sharing tab, placing checkmarks next to their names and clicking [**Save**].

You may specify data to be collected and analyses to be conducted for each Solution under the [**Analysis Required**] tab. By default, the Requirements setup under Client are automatically selected. Moreover, Analysis Requirements for the Solution will be automatically updated as Client's Requirements change, if the cascade function is set to on ▶. To override Analysis Requirements set under the Client, turn off the cascade function off ✖ . To restore the Analysis Requirements of the Client turn cascade back on ▶ and click [**Save**].

Note:

➢ By indicating which data and analyses are needed, ADVISOR will automatically hide nodes, tabs and fields that are no longer relevant, and in-turn streamline data collection and reduce time required to conduct the analysis – a very effective way of configuring ADVISOR to better meet your needs.

Step 6: Click on ▶ next to the ⬜ (**solution title**) node to expand.

Step 7: Click on the ⬜ **Options** node.

Step 8: Input the title for each option.

Step 9: Click [**Save**].

5.3 Define Target Audience

If Jobs (Occupations) have been defined under the **Analyze** tab under the 📁 **Job Analysis** folder, a 📁 **Target Audience** folder will appear. To select the Target Audience for this solution:

Step 1: Click on the 📁 **Target Audience** folder.

Step 2: Place checkmarks next to appropriate Jobs.

Step 3: Click [**Save**].

To associate the current Solution with a plausible solution (identified under the 📄 **Plausible Solutions** node under an 📋 (**objective**), Section 4.4) – in other words to indicate that this Solution will close the identified performance gap for this Job:

Step 4: Click on ▶ next to the 🗂**Target Audience** folder to expand.
Step 5: Click on ▶ next to the 🗂(**Selected Target Audience**) folder to expand.
Step 6: Click on the 📋 **Link Solution to Performance Gap** node.
Step 7: Select relevant Solutions. Only Plausible Solutions that match current Solution Type are presented.
Step 8: Click [**Save**].

To indicate the number of individuals that require this solution:

Step 9: Click on the 📋 **Individuals per Year** node.
Step 10: Input the number of individuals that require this solution for each year.
Step 11: Click [**Save**].

Notes:

➢ If required, the projections can be refined further by indicating the number of individuals that require the Solution in each month by selecting the Months option under **Estimate Number of Employees in** field under the 📋 (**solution**) node.

➢ Changes are automatically tracked by ADVISOR including who made the change and when. History of Changes Report can be generated by clicking the History icon 🕐 in the top right corner.

5.4 Assess the Effectiveness of Plausible Solutions

To assess the viability of plausible solutions:

Step 1: Click on ▶ next to 🗂**Feasibility Analysis** folder to display the following sections: 📋**Management**, 📋**Employees**, 📋**Supervisors**, and 📋**Resources**.

Step 2: To indicate management awareness and support to Solutions, click on the 📋**Management** node.

Step 3: Complete applicable fields.

Step 4: Click [**Save**].

Note:

➢ The same process can be repeated for 📋**Employees**, 📋**Supervisors** and 📋**Resources** nodes.

To view the effectiveness of plausible solutions:

Step 5: Click on the 🗋 **Effectiveness** node.

Step 6: Click on the Solution Title to find out why a solution is not recommended or why its effectiveness has been reduced. The reasons, based on information provided, are presented at the bottom of the screen.

Note:

➢ A 100% rating indicates a perfect match - i.e., the proposed Solution is well aligned with management, employees, supervisors and organizational needs/expectations. A 0% rating indicates that the proposed Solution does not meet one or more critical requirements.

5.5 Interpret Feasibility Analysis Results

Although the Feasibility Analysis model is based on hard evidence and scientific principles, keep in mind that the rating is an indicator – rather than an exact measurement. In other words, the primary objective of the Feasibility Analysis is to assist the analyst in identifying which solution best meets management, employees, supervisors and organizational needs. Moreover, it provides the reasoning behind the recommendations, so you are fully aware of the limitations of each solution. With this in hand, decisions can be made with a high degree of confidence on which option will best meets your needs.

5.6 Forecast the Costs of Plausible Solutions

The costs of design, development, hardware, software, administration, management, maintenance and support of plausible solutions are computed in this section. Moreover, costs can be classified as Direct (budget related) or Indirect (resources/productivity related).

In general, the costs can be divided into six main groups, namely: Development, Hardware, Software, Administrative, Management and Support. The costs can be further classified into two main categories – one time (start-up) or recurring (annual) costs. A brief description of items included in each group is presented below.

Group	Description	Classification
Development	➢ Analyze/Design/Develop Solution ➢ Purchase/License Off-the-Shelf Solution ➢ Formative Evaluation (Pilot)	Start-up Start-up Start-up
Hardware	➢ Purchase Hardware ➢ Set-up/Install Hardware ➢ Equipment Operation Cost	Start-up Start-up Annual
Software	➢ Purchase Software ➢ Set-up/Install Software ➢ Software Maintenance Cost	Start-up Start-up Annual
Administrative	➢ Staff (coordinate the implementation of solution)	Annual
Management	➢ Staff (coordinate solution analysis, design, acquisition, development, support and maintenance)	Annual
Support	➢ Consumable Materials ➢ Maintenance Costs ➢ Staff (installation, resolving software and hardware problems, etc.)	Annual Annual Annual

Note:

➢ ADVISOR can be configured for each Client in line with needs by specifying data to be collected and analyses to be conducted under the Setup tab, by clicking 🗂**Clients Setup** folder, selecting the 📋 (**client**) node, and clicking the [**Analysis Required**] tab (Chapter 2, ADVISOR Configuration Guide[3]).

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[3] http://www.bnhexpertsoft.com/user-guides-version-12/

For your reference, the process and formulas used to compute the costs are presented below.

5.6.1 Basic Variables

Item	Example	Comments
Annual Productive Days	230	# of days an average employee works per year.
Working Hours per Day	8.0	

5.6.2 Development Costs

Item	Example	Comments
Total Development Time [hours]	560	Estimate the effort required to design and develop the proposed solution.
Average Daily Cost for Developer	$500	
Total Personnel Costs	$35,000	= (560 / 8) x $500
Unit Cost of Off-The-Shelf Solution	$0	Only relevant if off-the-shelf solution exists.
Number of Items Requires	0	Only relevant if off-the-shelf solution exists.
Total Cost of Off-The-Shelf Solution	$0	= $0 x 0
Contracting Costs	$2,000	
Master Copy Production	$5,000	
Evaluation Costs	$12,000	
Miscellaneous Costs	$1,000	
Total Development Costs	$55,000	= $35,000 + $0 + $2,000 + $5,000+ $12,000 + $1,000

5.6.3 Hardware Costs

Purchase

Item	Example	Comments
Number of Units	25	
Cost per Unit	$10,000	
Sub Total Hardware Costs	$250,000	= 25 x $10,000
Availability [hours per year]	50,000	(2,000 hours per year per unit x 25 units)
Internal Set-up & Miscellaneous Costs	$5,000	
External Set-up & Miscellaneous Costs	$2,000	
Total Hardware Costs	$257,000	= $250,000 + $5,000 + $2,000
Solution Allocation [%]	50%	If the equipment or hardware is shared among several solutions, then the cost should be divided among these solutions. ADVISOR computes Solution Allocation as follows: Number of Hours Equipment Used [per year] (25,000) / Availability (50,000 hours) You may override & lock 🔒 these values. To restore recommended value, unlock 🔓 and click [**Save**].
Hardware Cost for Solution	$128,500	= $257,000 x 50%

Operation

Item	Example	Comments
Cost of Equipment Operation [per hour]	$2	
Number of Hours Equipment Used [per year]	25,000	
Solution Allocation [%]	50%	Retrieved from Purchase Costs.
Total Cost of Equipment Operation [over life]	$75,000	= $2 hour x 25,000 hours x 3 years x 50%
Annual Equipment Maintenance Costs	$12,500	
Total Equipment Maintenance Costs [over life]	$18,750	= $12,500 x 3 years x 50%
Total Equipment Operation Costs [over life]	$93,750	= $75,000 + $18,750

5.6.4 Software Costs

Purchase

Item	Example	Comments
Number of Units	25	
Cost per Unit	$1,000	
Sub Total Software Costs	$25,000	= 25 x $1,000
Internal Set-up & Miscellaneous Costs	$7,000	
External Set-up & Miscellaneous Costs	$8,000	
Total Software Costs	$40,000	= $25,000 + $7,000 + $8,000
Solution Allocation [%]	50%	If the software is shared among several solutions, then the cost should be divided among these solutions.
Software Cost for Solution	$20,000	= $40,000 x 50%

Maintenance

Item	Example	Comments
Annual Software Maintenance Cost [per unit]	$150	
Solution Allocation [%]	50%	If the software is shared among several solutions, then the cost should be divided among these solutions.
Total Software Maintenance Costs [over life]	$5,625	= $150 x 25 x 3 years x 50%

5.6.5 Administrative Costs

Item	Instructor-led	Comments
Annual Salary of Administrative Staff	$40,000	
Fringe Benefits Factor [%]	30%	Covers employees' benefits as well as general operational (overhead) expenses.
Annual Cost	$52,000	= $40,000 x 130%
Annual Productive Days	230	Number of days an average employee works per year.
Daily Cost	$226	= $52,000 / 230
Days on Project [per year]	15	Estimate number of administrative days for coordinating the implementation of solution.
Annual Personnel Costs	$3,390	= $226 x 15
Annual Miscellaneous Costs	$500	
Total Administrative Costs [over life]	$11,670	= [$3,390 + $500] x 3 years Life of Solution

5.6.6 Management Costs

Item	Instructor-led	Comments
Annual Salary of Management Staff	$65,000	
Fringe Benefits Factor [%]	40%	Covers employees' benefits as well as general operational (overhead) expenses.
Annual Cost	$91,000	= $65,000 x 140%
Annual Productive Days	220	Number of days an average employee works per year.
Daily Cost	$414	= $91,000 / 220
Days on Project [per year]	45	Estimate number of management days for Solution. Includes coordinating development, delivery, support, evaluation, maintenance, etc.
Annual Personnel Costs	$18,630	= $414 x 45
Annual Miscellaneous Costs	$1,500	
Total Management Costs [over life]	$60,390	= [$18,630 + $1500] x 3 years Life of Solution

5.6.7 Support Costs

Maintenance

Item	Instructor-led	Comments
Material Cost [per individual]	$50	Consumable material. This may include workbooks, notepads, handouts, CDs, etc.
Total Material Costs	$15,000	= $50 x 300 (Number of Employees)
Total Development Cost	$55,000	Retrieved from Section 5.6.2 Development Costs
Revision Factor	20%	% of revision proposed solution would require per year.
First Year Maintenance Costs	Exclude	
Total Revision Costs [over life]	$22,000	= [$55,000 x 20%] x 2 years
Annual Miscellaneous Costs	$3,200	
Total Maintenance Cost [over life]	$46,600	= $15,000+ $22,000 + [$3,200] x 3 (Life of Solution)

Technical Support

Item	Instructor-led	Comments
Annual Salary of Support Staff	$50,000	
Fringe Benefits Factor [%]	35%	Covers employees' benefits as well as general operational (overhead) expenses.
Annual Cost	$67,500	= $50,000 x 135%
Annual Productive Days	230	Number of days an average employee works per year.
Daily Cost	$293	= $67,500 / 230
Days on Project [per year]	75	Estimate number of days required from support staff. Includes installing, changing configuration, trouble shooting, etc.
Annual Personnel Costs	$21,975	= $293 x 75
Annual Miscellaneous Costs	$1,500	
Total Support Costs [over life]	$70,425	= [$21,975 + $1500] x 3 years Life of Solution

5.6.8 Total Costs

Item	Instructor-led	Comments
Development Costs	$55,000	
Hardware Costs	$128,500	
Hardware Operation Costs	$93,750	
Software Costs	$20,000	
Software Maintenance Costs	$5,625	
Administrative Costs	$11,670	
Management Costs	$60,390	
Maintenance Costs	$46,600	
Support Costs	$70,425	
Total Costs	$491,960	= $55,000 + $128,500 + $93,750 + $20,000 + $5,625 + $11,670 + $60,390 + $46,600 + $70,425
Total Number of Employee	300	That require the Solution.
Cost per Trainee	$1,640	

5.7 Compute the Costs of Plausible Solutions

To compute the costs of plausible solutions, including design, development, hardware, software, administrative, management, maintenance and support costs:

Step 1: Click on ▶ next to ⬛**Cost Analysis** folder to display the following nodes: ⬛**Basic Variables**, ⬛**Development**, ⬛**Hardware**, ⬛**Software**, ⬛**Administrative**, ⬛**Management**, and ⬛**Support**.

Step 2: Click on the ⬛**Development** node.

Step 3: Input relevant data. You do not have to complete all fields; but of course, the more data you provide the better the results.

Step 4: Click [**Save**] to automatically compute costs based on inputs.

Notes:

➢ Similar process can be used to forecast and compute ⬛**Hardware**, ⬛**Software**, ⬛**Administrative**, ⬛**Management**, and ⬛**Support** costs, as needed.

➢ To classify a cost as Direct (out of pocket expense) or Indirect (personnel/resource required), click on the ⓓ or ⓘ button next to the field to toggle between the two.

➢ Clarification for each field as well as the impact of the response on the results can be viewed by clicking on [**Help**].

➢ Data can only be entered in active cells. Data from previous entries or results are presented in read only mode. To change the value of a read only cell, **Total Personnel Costs**, for example, you would have to edit the fields used to compute this value, namely **Total Development Time [hours]** or **Average Daily Cost for Developer**.

Step 5: Click on the 📋 **Summary** node to view a detailed breakdown of the costs of plausible Solutions over Solution life (including inflation), present value, as well as the cost per employee, under the [**Distribution**] tab.

Step 6: To view [**Direct**] (out of pocket) costs, [**Indirect**] (personnel/resource related) costs, [**Upfront**][4] and [**Recurring**] costs as well as [**Personnel**] and [**Resources**] required to design, develop, administer, maintain and support the solution, click on the corresponding tabs.

	Manufacturer Guide	Parts & Replacement L
Development Costs	$ 200,000	$ 160,000
Hardware Costs	$ 0	$ 0
Hardware Operation Costs	$ 0	$ 0
Software Costs	$ 0	$ 0
Software Maintenance Costs	$ 0	$ 0
Administrative Costs	$ 89,348	$ 76,957
Management Costs	$ 134,239	$ 187,935
Maintenance Costs	$ 1,406,000	$ 1,252,450
Support Costs	$ 228,478	$ 191,565
Total Costs	**$ 2,058,065**	**$ 1,868,907**
Total Costs (PV)	$ 2,058,065	$ 1,868,907
Total Number of Employees	1,650	1,650
Cost per Employee	**$ 1,247**	**$ 1,133**
Cost per Employee (PV)	$ 1,247	$ 1,133

Click and complete next tab, if applicable; then click the Save button on the top left to save.

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[4] Upfront or startup costs represent the initial monetary outlay to launch the Solution.

ADVISOR automatically Rates plausible Solutions from most to least favorable. For each option, key data is presented, including: Rating (how well did the Solution meet management, employees, supervisors and organizational needs), Direct Up-front and Recurring Costs, as well as required Resources (i.e., Developers and Administrators). To view the Ratings for plausible Solutions:

Step 7: Click on ▶ next to the ⌐Summary folder to expand.
Step 8: Click on the ⬚ ADVISOR Recommendations node.
Step 9: Click on the solution title, to find out why the Rating of a solution has been reduced. The reasons, based on information provided, are presented at the bottom of the screen.

Once you have examined the effectiveness and costs of plausible solutions, you can select the option that best meets your needs, as follows:

Step 10: Click on the ⬚ User Recommendation node.
Step 11: Select the desired Solution.
Step 12: Click [**Save**].

ADVISOR automatically calculates the Return on Investment (ROI) of User Recommended Solution based on its projected impact on relevant Objectives, Tasks and in-turn unit/organization Missions/Goals. To view the ROI:

Step 13: Click on the 📋 **Projected ROI** node.

Note:

➢ In addition to forecasting and comparing the costs of plausible Solutions, the Cost Analysis module provides insight on how funds and resources are allocated. For example, how much funds are required to develop a Solution or purchase the necessary hardware; how many working days will be required to support employees, etc. You may also run what if scenarios such as developing Solution internally versus externally, for example, to determine impact on budget and resources.

Chapter 6: Generate Reports

6.1 Generate Solution Report

A comprehensive business case report that documents the process used to rate the effectiveness and compute the costs of plausible Solutions can be generated as follows:

Step 1: Click on the 🗋 **Solution Report** node.
Step 2: Select items to be included.
Step 3: Click [**Save**].

The report is presented in html format, in a new window. You may print or save the report using the corresponding functions in your Browser. Since the report is in html format, you can quickly advance to any section by clicking on the corresponding title in the Table of Contents.

Step 4: To generate the report in Word click on [**Generate Word Doc**] button.
Step 5: To return to ADVISOR, close the Solution Report window.

6.2 Identify Actions Needed to Meet Goals

To identify interventions (training and non-training Solutions) needed to meet current, emerging and future challenges (i.e., achieve Missions/Goals) including impact, costs, benefits and Return on Investment (ROI). The interventions can be identified for a specific Mission/Goal or a specific Task (Performance Objective) for a particular Job. To generate report:

Step 1: Click on the **Reports** tab; click on ▶ next to the ⌐┐Maximize Training Impact [Effectiveness & Efficiency] folder to expand; and click on the ⌐┐Identify Actions Needed to Meet Goals folder.

Step 2: Click [**Add**].

Step 3: Input the Report Title, Report Type (i.e., Mission or Job Profile), Client that the report is assigned to, as well as the Project under investigation.

Step 4: Click [**Save**] to advance to the next screen.

<u>Note:</u>

➢ All Users assigned to a Client may use the same parameters to generate their own reports. However, only data accessible to the User will be compiled and presented. Data accessible to the User is limited to: Jobs (including Tasks, Performance/Enabling Objectives and Knowledge/Skills) managed by User, Jobs managed by Subordinates (i.e., individuals that report to User including their subordinates) as well as Jobs in sub-divisions that User has access to.

Step 5: Place checkmarks next to the required Missions/Goals or Job Tasks, to identify actions needed to attain the Mission/Goal or Job Task.

Step 6: Click [**Save**] to generate.

The report is presented in a new window. You may export the report to other file formats such as MS Word, PDF, or print by clicking on the corresponding icon in the top left corner of the screen. To return to ADVISOR, close the Report window.

Identify Actions Needed to Meet Goals

Prepared by:	Administrator
Date:	August 04, 2020
Delivery Option:	Recommended

Solutions
For 600 Series - Aircraft Maintenance

Job-Aids	30.8%
Knowledge/Skills Training	23.1%
Improve Incentive System	15.4%
Improve Policies/Procedures	15.4%
New Tools	15.4%
Total:	100%

Division: 600 Series - Aircraft Maintenance

Job Profile	Performance Objective	Recommended Solutions	Solution Impact on Goal
Mission: Maintain Flight Systems On-Aircraft			
Aircraft Mechanic	Manage the Maintenance of Ice and Rain Protection	Improve Incentive System	15.38%
		Improve Policies/Procedures	15.38%
		Job-Aids	30.77%
		Knowledge/Skills Training	23.08%
		New Tools	15.38%

Recommended Solutions that have not been analyzed are dimmed. To find out the costs, impact, benefits and return on investment (ROI) of a plausible Solution, click on corresponding title **Job Aids** for example.

Job-Aids   30.77%

Solution / Course	Total Cost	Impact	Benefit	ROI
Aircraft Maintenance Job Aids	$ 2,058,065	$ 445,384,615	$ 443,326,550	4,308.00%

* Solution / Course Title Dimmed = incomplete

6.3 Identify Training Needed to Meet Goals

Identifies training needed to close a performance gap, or meet current, emerging and future challenges. The impact of plausible training Solutions as well as costs, benefits and Return on Investment (ROI) are also presented. To generate report:

Step 1: Click on the **Reports** tab.

Step 2: Click on ▶ next to the 🗀Maximize Training Impact [Effectiveness & Efficiency] folder to expand.

Step 3: Click on the 🗀Identify Training Needed to Meet Goals folder.

Step 4: Click [**Add**].

Step 5: Input the Report Title, Report Type (i.e., Mission or Job Profile), Client that the report is assigned to, as well as the Project under investigation.

Step 6: Click [**Save**] to advance to the next screen.

Step 7: Place checkmarks next to the required Missions/Goals or Job Tasks, to identify training needed to meet goals.

Step 8: Click [**Save**] to generate.

The report is presented in a new window. You may export the report to other file formats such as MS Word, PDF, or print by clicking on the corresponding icon in the top left corner of the screen. To return to ADVISOR, close the Report window.

Identify Training Needed to Meet Goals

Prepared by:	Administrator
Date:	August 04, 2020
Delivery Option:	Recommended

Training Programs
For 600 Series - Aircraft Maintenance

Radio En-Knowledge/Skill	79.4%
Radio En-Tools Training	18.1%
Aircraft-Knowledge/Skill	2.5%
Total:	100%

Division: 600 Series - Aircraft Maintenance

Job Profile	Performance Objective	Recommended Solutions	Solution Title	Impact on Goal
Mission: Maintain Radio Systems				
Radio Engineer	Maintain HF Radio System	Knowledge/Skills Training		33.33%
		Tools Training		18.52%
	Maintain UHF Radio System	Knowledge/Skills Training		33.33%

Job Profile	Performance Objective	Recommended Solutions	Solution Title	Impact on Goal
Mission: Maintain Flight Systems On-Aircraft				
Aircraft Mechanic	Manage the Maintenance of Ice and Rain Protection	Knowledge/Skills Training		100.00%

6.4 Forecast Interventions Impact & ROI for Organization Report

Forecasts potential Return on Investment (ROI) of non-training interventions by comparing anticipated impact on Missions/Goals to costs. To generate report:

Step 1: Click on the **Reports** tab.
Step 2: Click on ▶ next to the 🗀 **Maximize Training Impact [Effectiveness & Efficiency]** folder to expand.
Step 3: Click on the 🗀**Forecast Interventions Impact & ROI for Organization** folder.
Step 4: Click [**Add**].
Step 5: Input Report Title, select By (Client, User or Solution) and the Client that the report is assigned to.
Step 6: Click [**Save**] to advance to the next screen.

Step 7: Specify the time period, i.e., the Start and End Dates, and select Solutions to be included in the Report.
Step 8: Click [**Save**] to generate the report.

The report is presented in a new window. You may export the report to other file formats such as MS Word, PDF, or print by clicking on the corresponding icon in the top left corner of the screen. To return to ADVISOR, close the Report window.

Forecast Interventions Impact & ROI for Organization

Parameters:	Solutions
	January 01, 2021 to December 31, 2021
Prepared by:	Administrator
Date:	September 22, 2020

Performance Objective	Job Profile	Mission	Project
Policies (ROI = -10%, Benefit = $-6,783,881, Impact = $0, Cost = $6,783,881)			
Estimate costs	Project Manager		
Troubleshooting Tools (ROI = -20%, Benefit = $-2,282,059, Impact = $0, Cost = $2,282,059)			

* Solution Title Dimmed = incomplete

Recommended Solutions that have not been analyzed are dimmed. To find out the costs, impact and benefits of a plausible Solution, click on corresponding title **Policies** for example.

Policies (ROI = -10%, Benefit = $-6,783,881, Impact = $0, Cost = $6,783,881)	
Total Solution Cost	$6,783,881
Solution Impact	$0
Solution Benefit	-$6,783,881

Remember that context sensitive help is also available for each screen by clicking on [**Help**] and video clips on how to perform specific functions by clicking on the 📹 icon. **Enjoy!**

Annex A: Data Collection Forms

Employees Questionnaire

Unit/Division: _____
Job (Occupation): _____
Task _____
Date: _____
Name (optional): _____

<u>Directions</u>: Read each statement carefully and place checkmark in column that represents your response. If the statement does not apply to you, please leave the space blank. Thank you.

Employees Questionnaire	Disagree	Slightly Disagree	Agree
Aware of Policies			
I can list all policies and procedures that relate to the Task			
I understand the reasons behind all policies and procedures relating to Task			
I am supportive of existing policies and procedures for this Task			
I can describe the level of performance expected of me for this Task			
I can explain how my performance is evaluated/measured for this Task			
Get Along with Colleagues			
I require help or additional resources from fellow employees in order to perform this Task			
I get along quite well with co-workers and superiors			
My performance of this Task is not diminished by the relations I have with my supervisor/manager			
Need for Tools			
The tools and/or materials that I depend on to perform this Task are readily available			
Receive Adequate Feedback			
Formal procedure is in place to provide me feedback on my performance			
Constructive feedback is offered on working relationships with colleagues			

Employees Questionnaire (continued)	Disagree	Slightly Disagree	Agree
Motivated by Incentive System			
I am motivated by the long-term incentives offered for meeting expectations			
The system for delivering reprimands is constructive, fair and improves productivity			
There are clear short-term incentives for achieving the expected level of output			
Short-term rewards encourage me day by day to be more productive			
Enjoy my Job			
The work I carry out is gratifying and makes a difference for those around me and beyond			
I am given too much work on a regular basis, which reduces the quality I can provide			
Attitude Towards Supervisor			
My supervisor brings out the best in me			
If I need guidance and support from my supervisor, he/she is seldom available to provide advice			
Attitude Towards Feedback			
The information I receive about the Task performance allows me to accurately adjust my actions			
The level of performance expected of me for this Task, and how to achieve it is clear			
Feedback on this Task is given in time to allow me to make improvements			
Constructive feedback on how to get along with others is provided regularly			
Advice I receive on interactions with others indicates what is acceptable behavior			
Feedback is given in a timely manner to enable me to maintain acceptable behavior			
Attitude Towards Task			
I find that the Task challenging and it maintains my interest			

Employees Questionnaire Summary

Unit/Division: _____

Job (Occupation): _____

Task **_____**

Date: _____

Directions: Tally the responses. The Consensus should reflect the response with the highest value. Input the result in the corresponding field in the Root Cause Analysis (Section 4.4).

Summary of Responses	# that Disagree	# that Slightly Disagree	# that Agree	Consensus
I can list all policies and procedures that relate to the Task	2	0	8	Agree
I understand the reasons behind all policies and procedures relating to Task				
I am supportive of existing policies and procedures for this Task				
I can describe the level of performance expected of me for this Task				
I can explain how my performance is evaluated/measured for this Task				
I require help or additional resources from fellow employees in order to perform this Task				
I get along quite well with co-workers and superiors				
My performance of this Task is not diminished by the relations I have with my supervisor/manager				
The tools and/or materials that I depend on to perform this Task are readily available				
Formal procedure is in place to provide me feedback on my performance				
Constructive feedback is offered on working relationships with colleagues				
I am motivated by the long-term incentives offered for meeting expectations				
The system for delivering reprimands is constructive, fair and improves productivity				
There are clear short-term incentives for achieving the expected level of output				

Summary of Responses	# that Disagree	# that Slightly Disagree	# that Agree	Consensus
Short-term rewards encourage me day by day to be more productive				
The work I carry out is gratifying and makes a difference for those around me and beyond				
I am given too much work on a regular basis, which reduces the quality I can provide				
My supervisor brings out the best in me				
If I need guidance and support from my supervisor, he/she is seldom available to provide advice				
The information I receive about the Task performance allows me to accurately adjust my actions				
The level of performance expected of me for this Task, and how to achieve it is clear				
Feedback on this Task is given in time to allow me to make improvements				
Constructive feedback on how to get along with others is provided regularly				
Advice I receive on interactions with others indicates what is acceptable behavior				
Feedback is given in a timely manner to enable me to maintain acceptable behavior				
I find that the Task challenging and it maintains my interest				

Human Resources Questionnaire

Unit/Division: _____
Job (Occupation):   _____
Task   _____
Date: _____
Name (optional):   _____

Directions: Read each statement carefully and place checkmark in column that represents your response. If the statement does not apply to you, please leave the space blank. Thank you.

Human Resources Questionnaire	Disagree	Slightly Disagree	Agree
Employees have Knowledge & Skills			
Employees have the necessary knowledge, skills and/or experience to do the Task			
Less training would be needed if more qualified candidates are hired			
Employees Job Satisfaction			
The number of employees leaving the organization is at the expected level			
The degree to which employees are dismissed has not changed appreciably			
Environment			
The number of new employees hired within the past year is higher than normal			
Recruitment			
Employees for this Task are hired internally by our organization			
Only individuals with required qualifications and experience are hired			

Human Resource Questionnaire Summary

Unit/Division: _____

Job (Occupation):   _____

Task   **_____**

Date: _____

<u>Directions</u>: Tally the responses. The Consensus should reflect the response with the highest value. Input the result in the corresponding field in the Root Cause Analysis (Section 4.4).

Summary of Responses	# that Disagree	# that Slightly Disagree	# that Agree	Consensus
Employees have the necessary knowledge, skills and/or experience to do the Task	8	1	1	Disagree
Less training would be needed if more qualified candidates are hired				
The number of employees leaving the organization is at the expected level				
The degree to which employees are dismissed has not changed appreciably				
The number of new employees hired within the past year is higher than normal				
Employees for this Task are hired internally by our organization				
Only individuals with required qualifications and experience are hired				

Subject Matter Expert Questionnaire

Unit/Division: _____
Job (Occupation):   _____
Task   _____
Date: _____
Name (optional):   _____

Directions: Read each statement carefully and place checkmark in column that represents your response. If the statement does not apply to you, please leave the space blank. Thank you.

Subject Matter Expert Questionnaire	Disagree	Slightly Disagree	Agree
Tools			
Tools for Task are reliable, function properly and meet expectations			
One or more crucial pieces of equipment or material needed by employees to perform Task is missing			
Existing tools and materials permit personnel to meet performance objectives for Task			
Employees can easily and quickly locate all necessary tools and materials for Task			
Modernization of some equipment or materials would improve workmanship and Task productivity			
Employees Dependency on Tools			
Personnel need the equipment to perform the Task			
Tasks			
Errors in performing this Task among this group of employees will have serious consequences			
The Task level of complexity is considerably high, and mistakes can occur easily			
The Task or procedures carried out by employees can be greatly simplified			

Subject Matter Expert Questionnaire Summary

Unit/Division: _____
Job (Occupation): _____
Task _____
Date: _____

<u>Directions</u>: Tally the responses. The Consensus should reflect the response with the highest value. Input the result in the corresponding field in the Root Cause Analysis (Section 4.4).

Summary of Responses	# that Disagree	# that Slightly Disagree	# that Agree	Consensus
Tools for Task are reliable, function properly and meet expectations	8	1	1	Disagree
One or more crucial pieces of equipment or material needed by employees to perform Task is missing				
Existing tools and materials permit personnel to meet performance objectives for Task				
Employees can easily and quickly locate all necessary tools and materials for Task				
Modernization of some equipment or materials would improve workmanship and Task productivity				
Personnel need the equipment to perform the Task				
Errors in performing this Task among this group of employees will have serious consequences				
The Task level of complexity is considerably high, and mistakes can occur easily				
The Task or procedures carried out by employees can be greatly simplified				

Supervisor Questionnaire

Unit/Division: _____

Job (Occupation): _____

Task _____

Date: _____

Name (optional): _____

<u>Directions</u>: Read each statement carefully and place checkmark in column that represents your response. If the statement does not apply to you, please leave the space blank. Thank you.

Supervisor Questionnaire	Disagree	Slightly Disagree	Agree
Employees Qualifications			
Task is performed by employees correctly most of the time			
In the past, Task was performed correctly by personnel most of the time			
Personnel know the procedures for optimal performance of Task			
Employees have the ability to perform Task to the expected standard			
Employees Awareness of Policies			
Personnel can list all policies and procedures related to the Task			
Personnel can explain the main ideas behind all policies and procedures relevant to the Task			
Employees can follow required policies and procedures correctly for Task			
Policies Impact			
Policies and procedures have minimal impact on how employees perform Task			
Employees Interpersonal Skills			
Delays in Task performance are mostly caused by other groups of employees			
Interpersonal relations among employees are entirely acceptable			
Personnel interpersonal relations have a significant impact on Task performance			
Employees Dependency on Tools			
Employees can only perform Task to desired standard if they have the required tools			
Employees can use the equipment and/or materials required for Task efficiently and effectively			

Supervisor Questionnaire (continued)	Disagree	Slightly Disagree	Agree
Employees Incentives System			
Outstanding personnel performance is rewarded regularly			
Employees are informed of their poor performance and encouraged to improve			
Individuals or teams that complete their work in advance are given less rewarding Tasks			
Employees Job Satisfaction			
Employees are complaining that their responsibilities do not correspond to the job description			
Complacency is running high in the workplace, resulting in overall disenchantment			
Supervisors Awareness of Policies			
I can list all the policies and procedures that relate to the Task			
I can explain the meaning behind all policies and procedures relating to the Task			
I am able to use and apply all policies and procedures that impact the Task			
Implementing the performance related incentive system correctly is not a problem			
I find employees performance of the Task significantly less satisfactory than previous years			
I have full control of my operation with minimal problems, and an awareness of related projects			
There is a lack of time in order to properly address key tasks			

Supervisor Questionnaire Summary

Unit/Division: _____

Job (Occupation):   _____

Task   **_____**

Date: _____

<u>Directions</u>: Tally the responses. The Consensus should reflect the response with the highest value. Input the result in the corresponding field in the Root Cause Analysis (Section 4.4).

Summary of Responses	# that Disagree	# that Slightly Disagree	# that Agree	Consensus
Task is performed by employees correctly most of the time	3	1	6	Agree
In the past, Task was performed correctly by personnel most of the time				
Personnel know the procedures for optimal performance of Task				
Employees have the ability to perform Task to the expected standard				
Personnel can list all policies and procedures related to the Task				
Personnel can explain the main ideas behind all policies and procedures relevant to the Task				
Employees can follow required policies and procedures correctly for Task				
Policies and procedures have minimal impact on how employees perform Task				
Delays in Task performance are mostly caused by other groups of employees				
Interpersonal relations among employees are entirely acceptable				
Personnel interpersonal relations have a significant impact on Task performance				
Employees can only perform Task to desired standard if they have the required tools				
Employees can use the equipment and/or materials required for Task efficiently and effectively				
Outstanding personnel performance is rewarded regularly				
Employees are informed of their poor performance and encouraged to improve				
Individuals or teams that complete their work in advance are given less rewarding Tasks				
Employees are complaining that their responsibilities do not correspond to the job description				
Complacency is running high in the workplace, resulting in overall disenchantment				

Summary of Responses	# that Disagree	# that Slightly Disagree	# that Agree	Consensus
I can list all the policies and procedures that relate to the Task				
I can explain the meaning behind all policies and procedures relating to the Task				
I am able to use and apply all policies and procedures that impact the Task				
Implementing the performance related incentive system correctly is not a problem				
I find employees performance of the Task significantly less satisfactory than previous years				
I have full control of my operation with minimal problems, and an awareness of related projects				
There is a lack of time in order to properly address key tasks				

Instructor Questionnaire

Unit/Division: _____

Job (Occupation): _____

Task **_____**

Date: _____

Name (optional): _____

<u>Directions</u>: Read each statement carefully and place checkmark in column that represents your response. If the statement does not apply to you, please leave the space blank. Thank you.

Instructor Questionnaire	Disagree	Slightly disagree	Agree
Employees Interpersonal skills			
Employees are given adequate opportunities to learn interpersonal skills			
Tasks			
The training materials for these employees is less than one year			
Environment			
A new system or technology that impacts Task was introduced within the last twelve months			
Impact of new system or technology on Task is significant			
Formal training was given to personnel on how to successfully implement the new system			
New or improved work procedures that impact Task have been introduced within the past year			
Formal training was provided on how to apply the new work procedures			
Formal training was provided for new employees on how to perform the Task			

Instructor Questionnaire Summary

Unit/Division: _____
Job (Occupation):   _____
Task   **_____**
Date: _____

Directions: Tally the responses. The Consensus should reflect the response with the highest value. Input the result in the corresponding field in the Root Cause Analysis (Section 4.4).

Summary of Responses	# that Disagree	# that Slightly Disagree	# that Agree	Consensus
Employees are given adequate opportunities to learn interpersonal skills	8	1	1	Disagree
The training materials for these employees is less than one year				
A new system or technology that impacts Task was introduced within the last twelve months				
Impact of new system or technology on Task is significant				
Formal training was given to personnel on how to successfully implement the new system				
New or improved work procedures that impact Task have been introduced within the past year				
Formal training was provided on how to apply the new work procedures				
Formal training was provided for new employees on how to perform the Task				

Senior Executives Questionnaire

Unit/Division: _____
Job (Occupation): _____
Task _____
Date: _____
Name (optional): _____

<u>Directions</u>: Read each statement carefully and place checkmark in column that represents your response. If the statement does not apply to you, please leave the space blank. Thank you.

Senior Executives Questionnaire	Disagree	Slightly Disagree	Agree
Environment			
The unit/division effectively implements its strategic goals for these employees			
Too many changes are required to implement different procedures for a new system			
The unit/division has adapted quickly to changes in the work environment			
Employees Incentive System			
A formal performance based incentive system is available for this occupation			
Policies			
A detailed description of standards and policies for this Task is available			
Policies and procedures can easily be followed by employees to detect and correct skill gaps			
Rules and regulations must be strictly followed for employees to attain optimal productivity for Task			
A method or tool exists to accurately measure personnel Task performance			
The measurement of personnel proficiency in performing Task is reliable and consistent			
Guidelines for employees are obsolete or invalid, and they actually interfere with their performance			
Overlap in policies or procedures are contributing to delays			
Repetition in procedures are wasting time, money and resources			

Senior Executives Questionnaire Summary

Unit/Division: _____

Job (Occupation): _____

Task _____

Date: _____

Directions: Tally the responses. The Consensus should reflect the response with the highest value. Input the result in the corresponding field in the Root Cause Analysis (Section 4.4).

Summary of Responses	# that Disagree	# that Slightly Disagree	# that Agree	Consensus
The unit/division effectively implements its strategic goals for these employees	8	1	1	Disagree
Too many changes are required to implement different procedures for a new system				
The unit/division has adapted quickly to changes in the work environment				
A formal performance based incentive system is available for this occupation				
A detailed description of standards and policies for this Task is available				
Policies and procedures can easily be followed by employees to detect and correct skill gaps				
Rules and regulations must be strictly followed for employees to attain optimal productivity for Task				
A method or tool exists to accurately measure personnel Task performance				
The measurement of personnel proficiency in performing Task is reliable and consistent				
Guidelines for employees are obsolete or invalid, and they actually interfere with their performance				
Overlap in policies or procedures are contributing to delays				
Repetition in procedures are wasting time, money and resources				