SAS® Human Capital Management 5.2

User's Guide

SAS® Documentation

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SAS® Human Capital Management 5.2: User's Guide

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Contents

About This Book

Audience

This book helps you use SAS Human Capital Management 5.2 as an end user. For an overview of SAS Human Capital Management, see "What Is SAS Human Capital Management?" on page 1.

What's New in SAS Human Capital Management 5.2

Overview

SAS Human Capital Management 5.2 includes new and enhanced features to help you analyze your workforce, measure performance, and produce reports based on regulatory or organizational needs. For more information about the newest SAS Human Capital Management features, see “New and Enhanced Features” on page vii.

New and Enhanced Features

The following features are new or enhanced in SAS Human Capital Management 5.2:

- enhanced employee profiles, including multiple profiles, profile templates, external actions, and search capabilities
- enhanced geographic analysis, with better performance and filtering support
- built-in content management, including the ability to manage permissions and register for alerts
- tighter integration with SAS BI Dashboard, including a new provider for SAS Human Capital Management metrics
- tighter integration with SAS Strategy Management, SAS Web Report Studio, and the SAS Information Delivery Portal
- built-in support for single-variable forecasting
- support for workforce planning and budgeting (with SAS Financial Management)
- support for retention analysis using predictive analytics
- an enhanced Administration application, including the following new or enhanced features:
  - consolidated security administration (object-level security, row-level security, and column-level security)
  - employee profile management: the ability to create and assign custom profiles
  - the ability to create cubes and information maps
  - the ability to create and manage measures
  - configuration management
- a public API for customizing profile and Home page templates

- a diagnostic tool for SAS Human Capital Management, with these features:
  - reports on critical configuration elements, SAS server connections, database connections, and applications that are running on the managed servers
  - accessibility from the Administration application or from the command line

Changes to Stored Processes

The following features have changed in SAS Human Capital Management:

- Stored processes cannot be executed within a Microsoft Office application. They can be executed from the workspace, from a shortcut link, from SAS Web Report Studio, or from the action menu in the Employee Browser or a geographic analysis.

Accessibility

Introduction

SAS Human Capital Management includes the following accessibility and compatibility features that improve usability of the product for users with disabilities. These features are related to accessibility standards for electronic information technology that were adopted by the U.S. Government under Section 508 of the U.S. Rehabilitation Act of 1973, as amended.

If you have questions or concerns about the accessibility of SAS products, send an e-mail message to **accessibility@sas.com**

Keyboard Navigation

Standard Keyboard Navigation

SAS Human Capital Management can be navigated by using the keyboard. The following table includes some guidelines:

Task	Keyboard Control
Move forward through controls	TAB
Move backward through controls	SHIFT+TAB
Display the contents of a drop-down list	ALT+down arrow
Display a menu that has focus	Down arrow
Activate a button or menu selection when it has focus	ENTER
Open a context menu	SHIFT+F1

Shortcut Keys Added for Faster Navigation

SAS Human Capital Management enables the following keyboard shortcuts for faster navigation for some wizards, such as the New Cube wizard:

Task	Keyboard Control
Select **Next**	ALT+right arrow
Select **Previous**	ALT+left arrow
Select **Finish**	ALT+up arrow
Select **Cancel**	ALT+down arrow

Using SAS Human Capital Management 5.2 with JAWS

Tables Used for Screen Layout

When tables are used for screen layout in some dialog boxes, JAWS reads the table dimensional information. To ensure that all fields are read, set your JAWS reader to read one row at a time and use the standard JAWS keystrokes for reading a table.

The Edit Field

When using the keyboard to navigate to the Edit field, JAWS repeats the last valid item that it was able to read before a header or a footer.

High Contrast and Custom Color Styles

There is intermittent support for high contrast and custom color styles in SAS Human Capital Management.

Chapter 1

Getting Started with SAS Human Capital Management

What Is SAS Human Capital Management?

SAS Human Capital Management software integrates workforce data into a single source of information, enabling you to analyze your workforce, measure performance, and produce reports based on regulatory or organizational needs.

In a Web browser, as an end user, you can log on to SAS Human Capital Management and perform these tasks:

- browse, search, print, and export employee information
- search employee information and graph the search results
- create and customize an organization analysis
- create and customize a geographic analysis
- create and view Web reports that are based on information maps
- run stored process reports, including forecasting reports
- perform multidimensional analysis of OLAP cubes
- create and view dashboards, key performance indicator (KPI) projects, or (with SAS Strategy Management installed) scorecards, using predefined or custom workforce metrics

Administrators can also perform a number of management, administration, and configuration tasks, as described in the *SAS Human Capital Management: Administrator's Guide*.

Using SAS Human Capital Management provides the following benefits:

- **You can analyze the workforce and simulate organizational changes.** Predefined analytics such as organization analysis display organizational hierarchies in a list of graphical views while surfacing critical data about the work force. You can also simulate organizational structure changes for workforce planning and modeling by moving groups or people to see the effect.
- **You can measure and improve workforce productivity.** For the analysis of key indicators, SAS Human Capital Management provides an extensive set of prepackaged metrics as well as the ability for users to create their own measures. Combined with the SAS BI Dashboard (part of the SAS Intelligence Platform), SAS Human Capital Management enables you to view the status of key metrics, such as revenue per employee, relative to goals.
- **You can minimize risk by changing likely outcomes.** SAS Human Capital Management provides advanced analytics and easy-to-use interfaces so business users can identify and minimize risks by predicting workforce changes and analyzing associated costs. Forecasting or analytic expertise is not needed.
- **You can budget for future workforce needs.** When integrated with SAS Financial Management, SAS Human Capital Management makes detailed employee information available for planning and budgeting within a structured workflow.

Log On to SAS Human Capital Management

Your administrator will provide the URL to the logon page for SAS Human Capital Management. Type your user name and password on the logon page and click **Log On**. The password is case sensitive.

Logging on to SAS Human Capital Management requires membership in specific groups and roles. If your logon fails, contact your administrator.

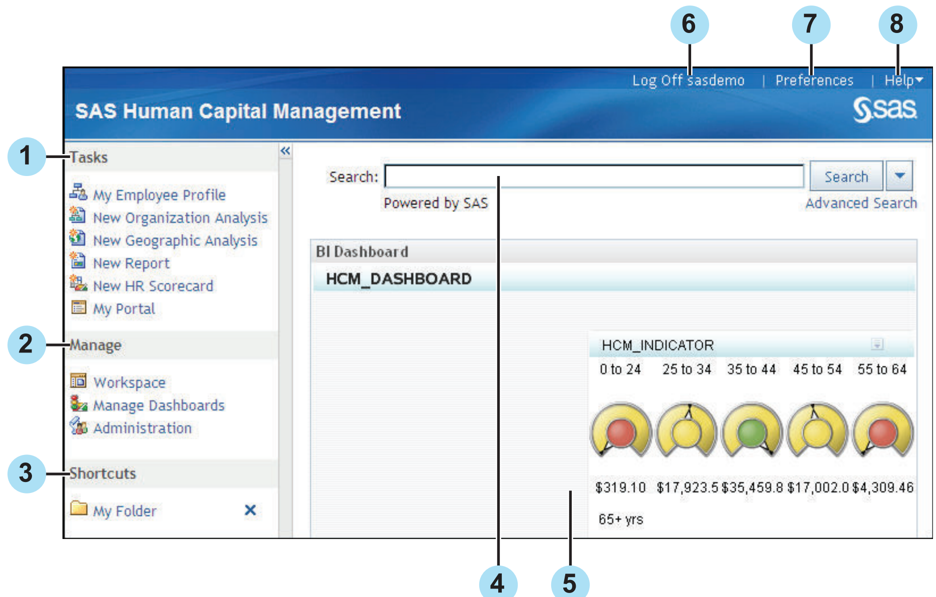
CAUTION:

Be sure to log on to SAS Human Capital Management in a separate browser window. Tabbed browsing (available with Microsoft Internet Explorer 7) is not supported in the portal or in SAS Human Capital Management. After you log off, close the browser window. If you are using Internet Explorer 8 with SAS Human Capital Management you need to select compatibility mode. You can enable compatibility mode in Internet Explorer 8 by selecting **Tools** ⇨ **Compatibility View** in your Internet Explorer browser.

About the Home Page

When you log on to SAS Human Capital Management, you are taken to the Home page. Its contents vary, depending on your permissions and on site configuration. Here is an example:

Figure 1.1 *SAS Human Capital Management Home page*



1 The **Tasks** list contains links to available tasks, such as opening the Employee Browser or creating a geographic analysis.

2 The **Manage** list contains links to management tasks, such as managing the workspace.

3 The **Shortcuts** section contains shortcut links that you define.

4 The **Search** text box and button support the general search utility.

5 If the Home page has been configured to display dashboards, the BI Dashboard portlet displays the currently selected dashboard. If multiple dashboards have been defined, you can select from a drop-down list at the bottom of the page.

Note: The Home page might be configured to display other information, or this section of the Home page might be empty.

6 Click **Log Off** to log off SAS Human Capital Management.

7 Click **Preferences** to open a dialog box for selecting preferences such as language and theme.

8 From the **Help** menu, select **Help Contents** to display the online Help, beginning with an overview of SAS Human Capital Management. Select **Help on this page** to display help for the current page. Select **About** for general information about SAS Human Capital Management.

These links are available on most pages:

- The logo in the upper right corner (such as sas) is a link to the Home page.
- The **Back** button is a link to the last page you visited.

The Tasks List

The **Tasks** list contains links to the tasks that you have permission to perform. Possible links include the following:

- **My Employee Profile.** Open the Employee Browser, in which you can view a summary of information about a group of employees or view detailed information about a single employee. See Chapter 4, “The Employee Browser,” on page 35.
- **New Organization Analysis.** Create an organization analysis, in which you can view the structure of an organization in a hierarchical table or a graphical organization chart. You can also simulate a reorganization. See Chapter 5, “Organization Analysis,” on page 49.
- **New Geographic Analysis.** Create a geographic analysis, with which you can analyze workforce data by geographic region. Map view displays the data over a map; you can drill down to more detailed maps and the associated data. Table view displays information in a table. See Chapter 6, “Geographic Analysis,” on page 63.
- **New Report.** Create a report in SAS Web Report Studio. The input data can be an information map or the results of executing a stored process. See Chapter 10, “Creating Reports with SAS Web Report Studio,” on page 97.
- **New HR Scorecard.** Create a scorecard in the KPI Viewer or in SAS Strategy Management, depending on your installation. See Chapter 12, “Metrics and Scorecards,” on page 109.
- **My Portal.** Open your portal page in the browser. On this page you can see other portal content, as well as the SAS HCM Content portlet, a collection portlet that contains a shortcut to the SAS Human Capital Management Home page, as well as any shortcuts that you add. See “The SAS HCM Content Portlet” on page 5.

  For more information about collection portlets, see the online Help for the portal.

The Manage List

The **Manage** section of the Home page contains links to management tasks that you have permission to perform:

- **Workspace.** Manage the folders and files that you have permission to view. See Chapter 3, “The Workspace,” on page 25.

  In the workspace, you can find a set of standard reports (SAS reports and stored processes) that are available with SAS Human Capital Management. See Chapter 7, “Viewing the Standard Reports,” on page 75.

  You can also find a set of forecasting reports, if they have been configured by your administrator. See Chapter 8, “Forecasting in SAS Human Capital Management,” on page 85.
- **Manage Dashboards.** Create and manage dashboards for viewing key metrics within your organization. See Chapter 9, “Displaying Key Metrics with SAS BI Dashboard,” on page 91.
- **Administration.** For administrators only, this application is used to manage data, security, employee profiles, and similar components of SAS Human Capital Management.

The Shortcuts List

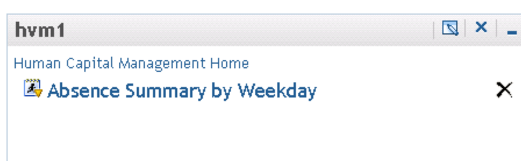
The **Shortcuts** section of the Home page contains links to documents and folders that you have permission to view. Initially, this section is empty. In the workspace, you can create shortcuts that are useful to you, such as a link to your personal folder or a link to the standard reports.

The General Search Utility

At the top of the Home page is the general search utility, with which you can conduct a search of employees. The text box provides a quick and simple search. The Advanced Search dialog box can be used to build a query. See "Performing a General Search" on page 7.

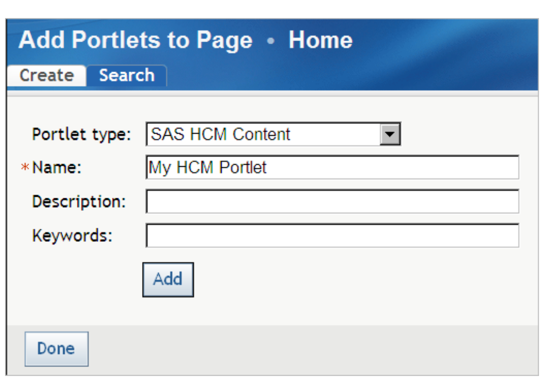
The SAS HCM Content Portlet

The main page of the portal contains the SAS HCM Content portlet, which is a special collection portlet that by default has a link to SAS Human Capital Management. As a collection portlet, it can contain additional links that you create in the workspace. The following figure shows a SAS HCM Content portlet with two links: one to the Home page of SAS Human Capital Management and one to a stored process.



If you need to add the SAS HCM Content portlet to your portal, follow these steps:

1. On the Home page, click **My Portal**.
2. In the portal, select **Customize** ⇨ **Edit Page** ⇨ **Edit Page Content**.
3. On the Edit Page Content page, select **Add Portlets**.
4. For the **Portlet type**, select **SAS HCM Content**.



5. Name the portlet.
6. (Optional) Add a description and keywords.
7. Click **Add**.
8. Click **Done**.
9. If your portal page uses a column layout, select the column in which your portlet should appear. If your portal page uses a grid layout, add the portlet to the grid.

   For details about the layout of portlets on a page, consult the online Help for the portal.
10. Click **OK**.

User Customizations

You can customize your experience with SAS Human Capital Management in several ways, depending on your permissions:

- **Create shortcuts on your Home page.** See "Create a Shortcut" on page 30.
- **Add items to the HCM Content portlet.** See "Add Content to the SAS HCM Content Portlet" on page 29.
- **Customize the Employee Browser, an organization analysis, or a geographic analysis.** For example, you might add tables to the Employee Browser or add measures to an organization analysis or geographic analysis. For details, see the descriptions of those applications.
- **Set user preferences.** Click **Preferences** at the top of the Home page and set the following preferences:
  - **your language preference.** Most menus, links, titles, and labels are displayed using the language you select, if it is supported.
  - **a theme.** Themes control the look and feel of the display. They include display options such as fonts and images. If more than one theme has been defined at your site, you can select from the available themes.
  - **portal options.** These options control the navigation order (vertical or horizontal) and similar display elements.
  - **scorecard options.** These options affect the display of scorecards, such as the number of rows to display on a page.

  Note: Date and currency format preferences and alert notification preferences that are set on the portal's Preferences page do not apply to SAS Human Capital Management. Your HCM administrator sets the date and currency formats, which might reflect the current locale. (No currency conversion takes place.) You specify an alert notification preference when you create an alert in the workspace.

If you encounter any problems displaying a double-byte character set (DBCS), upgrade your browser to Windows Internet Explorer 7 or later.

Administrators can make further customizations, as described in the *SAS Human Capital Management: Administrator's Guide*.

Chapter 2

The General Search Utility

Performing a General Search

About the General Search

The general search is available on the home page of SAS Human Capital Management. The general search performs a query on the default search table, as designated by the administrator.

You can perform the following tasks:

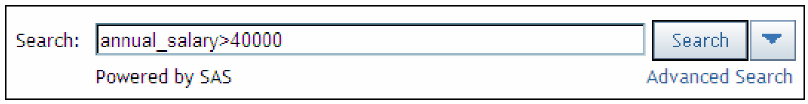
- perform a simple search, by typing a search string in the **Search** text box
- use the Advanced Search dialog box to construct a complex query
- display the results in a table, a graph, or a map
- export the results table to a Microsoft Excel file
- export the table and graph to a PDF file
- print the results
- e-mail selected employees

If security has been applied to the search table, that security affects both the query and the results. That is, you can search only on columns for which you have permission, and the search results contain only data that you have permission to view.

Simple Search

Perform a Simple Search

The text box next to the **Search** button is available for simple searches.



For complex searches, you will probably want to use the Advanced Search dialog box to build your query string.

To perform a simple search:

1. Type a search string into the text box. For example, the following string searches for employees that have an annual salary that is greater than $40,000.

   ```
   annual_salary>40000
   ```

   You can also combine search parameters. For example, the following string searches for active employees who live in Raleigh or Durham.

   ```
   (city_nm=Raleigh OR city_nm=Durham) AND employee_status_cd=A
   ```

   Do not use quotation marks for character strings.

   If search assist is enabled, when you begin to type, a pop-up list displays matching columns for you to select from. For more information, see "Enable Search Assist" on page 9.

2. Click **Search**.

Note: If your search string contains a reference to a restricted column or a nonexistent column (for example, if you misspell the column name), a warning message is displayed and that search term is ignored.

Search on Default Columns

If your administrator has designated certain columns as default search columns, you do not need to specify those column names. For example, if EMPLOYEE_NAME is a default search column, you can simply type a name to return a list of all matching employees. Partial names are acceptable.

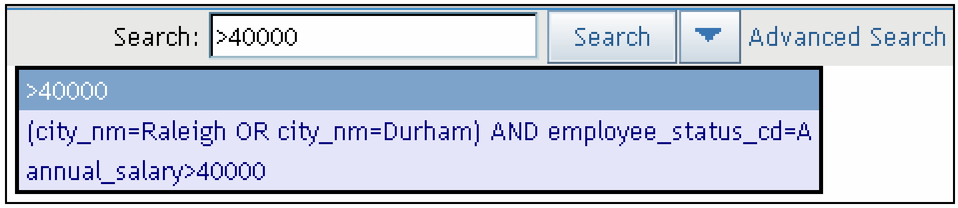
If ANNUAL_SALARY is a default column, the following search string returns a list of all employees with salaries greater than $40,000.

```
>40000
```

Note: Consult your administrator for the names of the default search columns. If no other columns have been configured as defaults, then the EMPLOYEE_NAME column acts as a default search column.

Use Search History

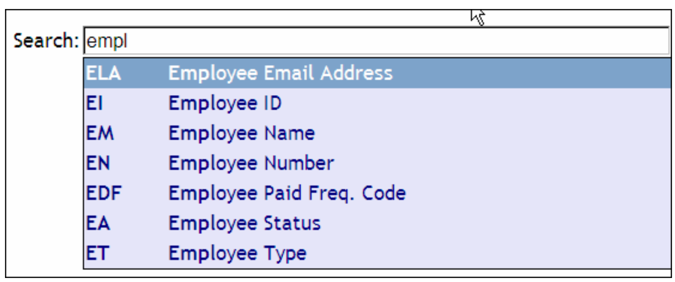
To reuse a previous search string, click the Search History button and select a string from the pop-up list.



Note: The Search History list contains only the five most recent search strings.

Enable Search Assist

Search assist applies to simple searches on the Home page. If search assist is enabled, when you begin typing in the search text box, a pop-up list of matching search fields appears. The search assist box matches column names, symbols, and column descriptions. (If a column has a symbol, which makes queries shorter, the symbol appears instead of the column name.) Select an entry from the list to include the symbol in your query.



For example, if you selected **Employee Name** from the list, the matching symbol (in this case, **EM**) would appear in the simple search text box. If a symbol has not been generated for a particular column, the column name appears instead.

Search assist is not available to all users. If you have permission to use search assist, you can enable it by pressing the F12 key or by following these steps:

1. Click **Advanced Search**.
2. Click the **Options** tab.
3. Select **Turn on Search Assist**.

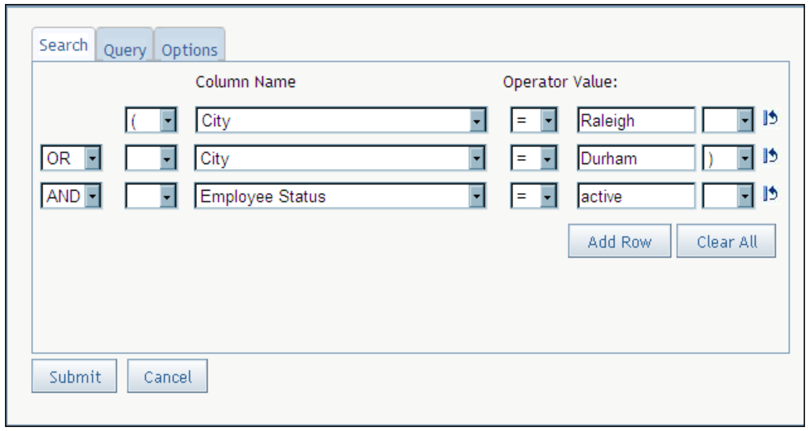
Note: You can also type these column symbols directly into the text box, rather than using the search assist mechanism.

Advanced Search

Perform an Advanced Search

In an advanced search, you can build a search string from available columns and operators:

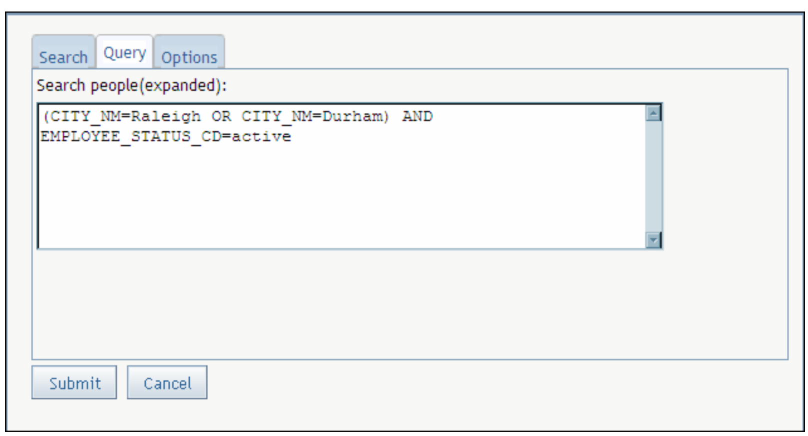
1. Click **Advanced Search**.
2. In the Advanced Search dialog box, select and type the appropriate columns, operators, values, and parentheses to build a search string.



3. Click **Add Row** to add a row to the dialog box (to a maximum of 5 rows).
4. To reset the contents of a row, click the Reset button.
5. To reset all the rows, click **Clear All**.
6. Click **Submit**.

Use the Query Tab

The **Query** tab of the Advanced Search dialog box displays the full search string, which you can edit before clicking **Submit**. However, no validation takes place when you submit your query from this tab. It behaves just like a simple search.



Enable Case-Sensitive Searches

Case-sensitive searches are available only in the Advanced Search dialog box. Simple searches are always case insensitive.

To enable case-sensitive searches:

1. Click **Advanced Search**.
2. In the Advanced Search dialog box, click the **Options** tab and select **Match case**, or press the F11 key.

General Search Functionality

Summary of General Search Options

Here are the options that are available in a general search. Some options depend on whether you are doing a simple search or an advanced search:

Table 2.1 *General Search Options*

Option	Availability
Ability to search for active or inactive employees	Yes, both active and inactive employees are included (use search terms to filter results)
Parentheses permitted around terms	Yes
Logical operators (**AND**, **OR**) permitted	Yes
Comparison operators (=, **!**=, <, <=, >, >=) permitted	Numeric, date, and currency fields: yes Character fields: **=** operator only
Wildcard searches permitted: _ matches exactly one letter; **%** matches zero or more letters	Unformatted character fields: yes Formatted character fields: yes, if you specify the formatted value; no, if you specify the code All other fields: no
Case-sensitive searches permitted	Simple search: no Advanced search: yes
Search assist available	Simple search: yes (Home page only) Advanced search: no

Date Fields

When searching dates, use the format *YYYY-MM-DD* (year-month-day), *YYYY-MM* (year-month), or *YYYY* (year).

Currency Fields

When a numeric field represents a currency, the search string can include or omit currency symbols (such as the dollar sign) and separators (such as a comma or decimal point). The result is the same either way.

Formatted Character Fields

In some cases, the format in which data is displayed is different from the format in which it is stored. For example, Job Group data might be stored as an alphanumeric code such as **`1H`**, but displayed as **`Manager High`**; or it might be stored as **`3T`** but displayed as **`Technical`**.

When a character field is formatted, you can search by the code or by the display format. If you search by code, you must specify the entire code. Wildcards do not apply.

Wildcards

You can use wildcards in formatted or unformatted character fields. Two types of wildcards are permitted:

_ (underscore)	matches exactly one letter.
%	matches zero or more letters.

If the search string does not explicitly include a wildcard, then the search mechanism adds `%` to the beginning and end of the string (for unformatted fields) or to the end of the string (for formatted fields).

Here are some examples of search strings for employee name (an unformatted field). Because employee name is always a default search column, you can omit the column name.

Search string	Result
`will`	Finds all employees with a name that includes the string “will”, such as Williams, Ted or Rogers, Will or Terwilliger, Frank. Because there are no wildcards in the input string, the search utility adds a percent sign (`%`) to the beginning and end of the string.
`b%`	Finds all employees whose last name begins with a “b”, such as Brady or Banks. Because there is a wildcard at the end of the search string, the search utility does not add a wildcard.
`%ay%`	Finds all employees whose name contains “ay”, such as Gray or Zaytoun. Searching for **`ay`** (without wildcards) returns the same results. If the search argument contains no wildcards, `%` is automatically added to the beginning and end of the search string.
`%, B%`	Finds all employees whose first name begins with “B”. (In the sample data, a comma separates the last name from the first name.) The case is disregarded unless this is a case-sensitive search.
`berr_,%`	Finds all employees with a last name that begins with “berr” and is five characters long.
`_b%`	Finds all employees whose last name contains a “b” as the second character.

Here are some examples of searches that include a formatted character field. Either the code or the formatted display value is acceptable. However, wildcards work only with the formatted string.

In the first example, you want to find all employees with a job group that begins with the word “manager”, such as **Manager High** or **Manager Low**. The search string looks like this:

```
JG=manager
```

(Assume that JOB_GROUP_CD has a search symbol of **JG**.) Because Job Group is a formatted field, the search utility adds a wildcard only to the end of the string. (A search string of **`JG=high`** or **`JG=low`** would return no results.)

The search results look like this:

Employee Name	Employee ID	Annual Salary	Age	Job Group
Zievis, Brian T.	10035	$54,983.55	47	Manager Low
Jones, James F.	10203	$55,360.97	49	Manager Low
Yim, Su-Jim R.	10287	$49,362.04	38	Manager Low
Page, Russell S.	10314	$45,131.01	54	Manager Low
Woodcock, Stephanie F.	10327	$46,092.46	35	Manager Low
Marshall, Ann Patricia	10433	$228,209.21	55	Manager High
Brown, John I.	10510	$45,945.43	41	Manager Low
Gallelli, John R.	10537	$58,618.66	38	Manager Low
Johnson, Robert N.	10644	$142,191.96	43	Manager High
Richardson, Henry J.	10676	$86,331.43	57	Manager Low

Rows 1 - 10 of 115

In the next example, assume that you are searching for an employee named Jones who lives in either North or South Carolina. (Assume that the STATE_REGION_CD column has a search symbol of **SRR**.) You could enter this search string, which uses the unformatted state codes:

```
jones and (srr=NC or srr=SC)
```

You could also apply a wildcard to the beginning of the formatted state name:

```
jones and srr=%carolina
```

Because employee name is always a default search column, you can omit the column name. The results might include these rows, showing employees in both states:

Employee Name	Employee ID	Annual Salary	Age	Job Group	State or Region
Jones, Norella C.	17584	$43,391.14	34	R&D High	North Carolina
Jones, Bud S.	19541	$37,341.64	50	R&D Low	South Carolina
Jones, Maurice H.	19554	$37,179.62	37	Technical	North Carolina
Jones, Susan R.	5389	$81,978.73	44	Administrative Professional	North Carolina
Jones, David E.	6929	$45,534.56	43	Technical	North Carolina
Jones, Harper T.	8372	$54,072.63	36	Administrative Professional	North Carolina
Jones, Wendy M.	8459	$76,053.20	49	Technical	North Carolina
Jones, Cynthia R.	8714	$44,376.18	63	R&D High	North Carolina
Jones, Willard R.	9159	$70,396.60	47	Technical	North Carolina

Rows 11 - 19 of 19

In this third example, imagine that you want to find an employee named Smith who works in sales. You happen to know the Job Group code, so you enter this search string using the unformatted value:

```
smith and jg=2s
```

Remember that wildcards do not apply to unformatted values: you must specify the entire code. The search results look like this:

Employee Name	Employee ID	Annual Salary	Age	Job Group
Smith, Sharol T.	10363	$49,710.54	37	Sales and Marketing
Smith, Nancy P.	11551	$26,861.96	31	Sales and Marketing
Smith, Bernice A.	11776	$19,825.34	51	Sales and Marketing
Smith, Sequina T.	16081	$27,218.91	40	Sales and Marketing
Smith, Tamara R.	7256	$59,518.62	40	Sales and Marketing
Smith, Charnay E.	8867	$38,546.09	60	Sales and Marketing

Comparison Operators

You can use comparison operators in numeric fields, including date and currency fields. For character fields, you can use the equals (=) operator.

A relational operator can be one of the following:

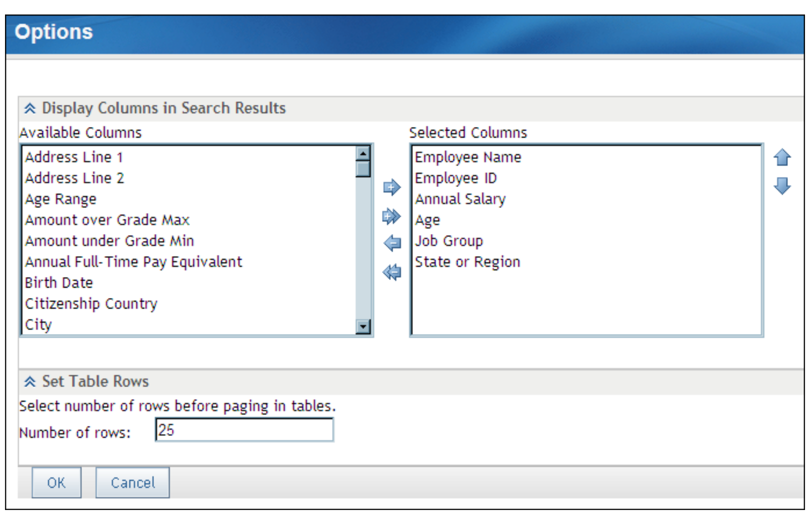
=	Equal
!=	Not equal
>	Greater than
>=	Greater than or equal
<	Less than
<=	Less than or equal

Working with the Search Results

The search results are displayed in a table. By default, the employee name and employee ID are displayed. To add more columns to the display:

1. Click **Options**.
2. On the Options page, select the columns to be displayed.

   Use the right arrows to move columns from the **Available Columns** box to the **Selected Columns** box. Use the left arrows to remove columns from the display. Use the up and down arrows to rearrange the order in which the columns are displayed.



3. (Optional) Set the number of rows to display at a time.

4. Click **OK**.

To add a graph or a map to the page, see "Graphing the Search Results" on page 15.

To print the results, click the Print button on the toolbar.

To export the results to a Microsoft Excel file or a PDF file, select **Save As** ⇨ **Excel** or **Save As** ⇨ **PDF File** from the toolbar.

To send an e-mail message to all employees in the search results list, click **Email All** on the toolbar. An e-mail message is created, and the **To** line is populated with the address of each employee in the search results.

Note: This feature uses the mailto protocol and is subject to its limitations on both message size and the size of the **To** list. If you receive an error, try restricting your search so that you get fewer results.

Graphing the Search Results

About Working with Graphs

After you perform a search, you can display the search results in a graph as well as in a table. These graphs are easy to create and are designed to be temporary in nature. When you perform a new search or select a different graph, the current graph is replaced. However, you can save both the table and the current graph to a PDF file, using the **Save As** menu in the toolbar. If you then import the PDF file to the workspace, you can add it to a portlet.

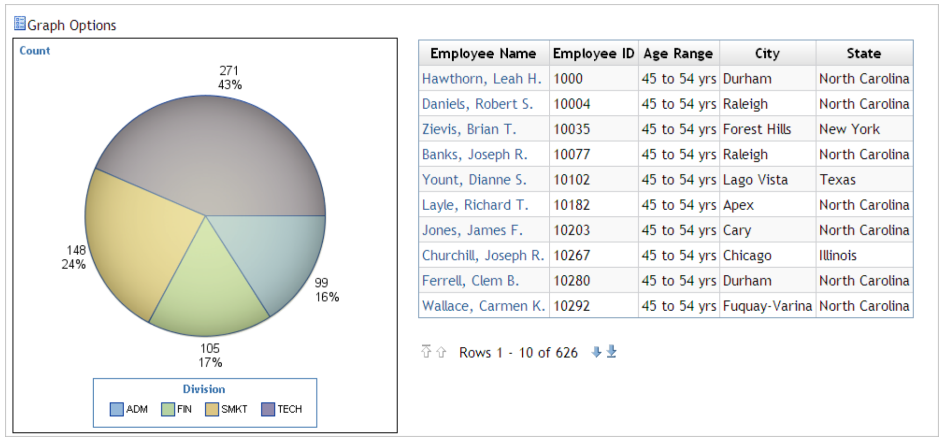
Note: To remove a graph and display only the table, click the Table Viewer button in the toolbar.

Create a Graph

To graph the results of a general search, follow these instructions. For details about a specific graph type, see "Types of Graphs" on page 19.

1. Perform the search.
2. On the search results page, select a graph type:
   - Bar Chart
   - Pie Chart
   - BarLine Chart
   - Scatter Plot
   - Line Chart
   - Geo Map

   The graph is displayed below the results table, with default attributes.
3. (Optional) Rearrange the display of the results table or the graph by dragging the table or graph to a new position on the page. In this example, the graph and table are side by side, and the table has been moved to the right of the graph.



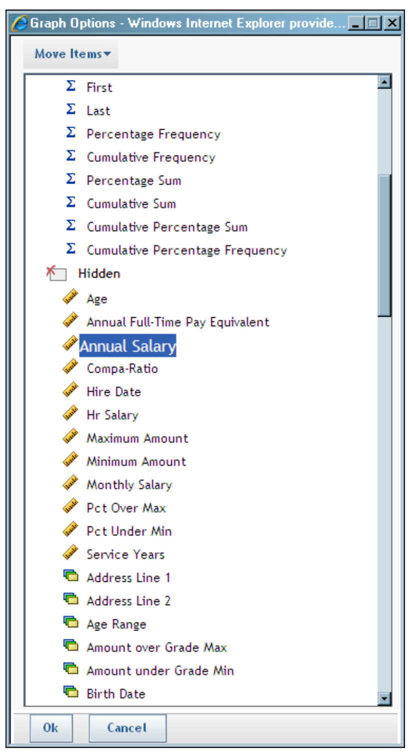
Employee Name	Employee ID	Age Range	City	State
Hawthorn, Leah H.	1000	45 to 54 yrs	Durham	North Carolina
Daniels, Robert S.	10004	45 to 54 yrs	Raleigh	North Carolina
Zievis, Brian T.	10035	45 to 54 yrs	Forest Hills	New York
Banks, Joseph R.	10077	45 to 54 yrs	Raleigh	North Carolina
Yount, Dianne S.	10102	45 to 54 yrs	Lago Vista	Texas
Layle, Richard T.	10182	45 to 54 yrs	Apex	North Carolina
Jones, James F.	10203	45 to 54 yrs	Cary	North Carolina
Churchill, Joseph R.	10267	45 to 54 yrs	Chicago	Illinois
Ferrell, Clem B.	10280	45 to 54 yrs	Durham	North Carolina
Wallace, Carmen K.	10292	45 to 54 yrs	Fuquay-Varina	North Carolina

4. To modify the properties of the graph, select **Graph Options**.

5. In the Graph Options dialog box, select measures for the graph.

   Measures are numerical values such as age or salary. In bar and line graphs, measures are displayed along the vertical axis. Multiple measures are represented by multiple bars, lines, or markers, using the same scale for all measures, based on the largest value.

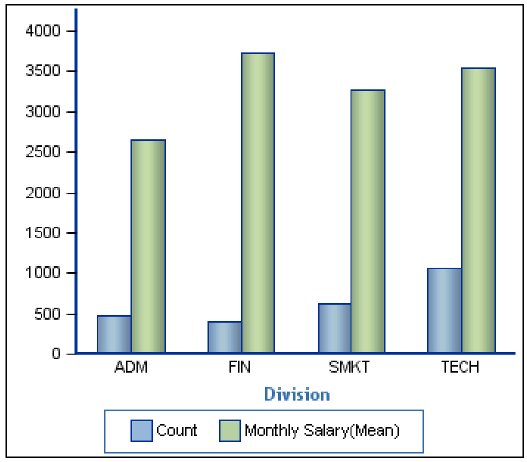
   a. Select a measure.

   Measures are identified by the Measure icon.

   b. Either drag the measure to its destination (such as **Bar Height**), or use the **Move Items** menu to select a destination. Invalid destinations are dimmed.

Most graphs can display multiple measures, as in this bar chart that shows both the count and the average monthly salary for division employees.



6. Select statistics for the measures. (Does not apply to scatter plots.)

   By default, each measure that you select is displayed as a count. To change the statistic (for example, to a sum or an average):

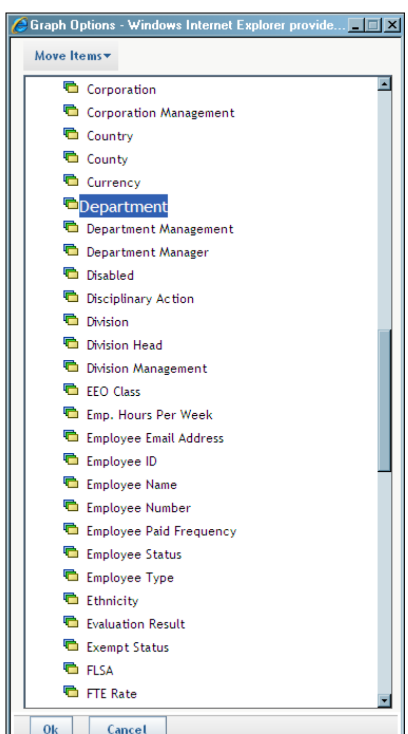
   a. Select the measure.

   b. From the **Move Items** menu, select a statistic.

7. Select categories for the graph.

   A category determines the way the measures are organized (for example, by division, department, geographical area, or gender). A graph can have only one category. Categories are displayed on the horizontal axis or in the legend, depending on the type of graph. In a scatter plot, a category is optional.

   a. Select a category. Categories are identified by the Category icon .



   b. Select a destination for the category.

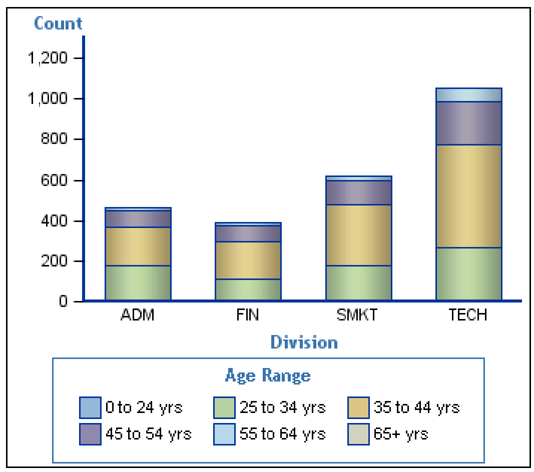
8. (Optional) Select a subcategory.

Subcategories represent a subdivision of the category. For example, if the category is Division, the subcategory might be age range (as in the figure that follows), gender, or marital status.

To create a subcategory, move a category to a subcategory list in the Graph Options dialog box. For example, move a category to **Bar Subgroup** to create a subcategory for a Bar Chart.

Note: Not all graphs contain subcategory fields.

Figure 2.1 *Bar Chart Showing the Employees in Each Division, Subdivided by Age Range*

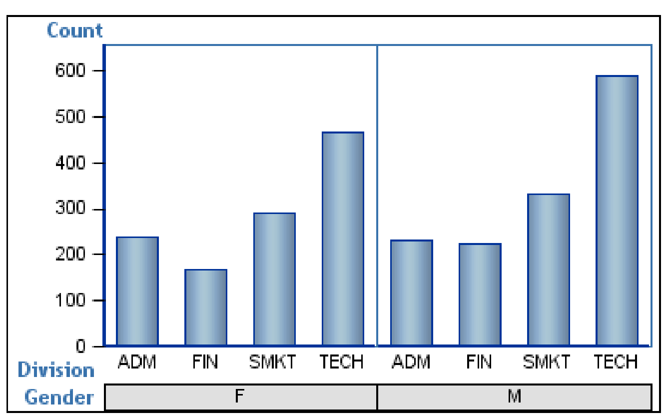


9. (Optional) Select a category for a horizontal or vertical series. (Does not apply to maps.)

   A series displays a set of graphs, one for each instance of a category. Series can be horizontal or vertical, depending on whether you want the graphs to appear side by side or stacked vertically.

   This horizontal series displays employee count by division in two different graphs, one for women and one for men.

Figure 2.2 *Bar Chart with Horizontal Series*



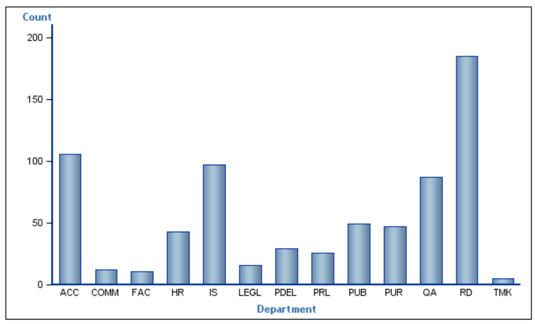
10. If a property has multiple selections, you can reorder the selections by dragging a column to its new location, or by selecting a column name and then selecting **Move Up** or **Move Down** from the **Move Items** menu.
11. To remove a category or a measure from the display, move it to the **Hidden** section of the graph options.
12. Click **OK**.

Types of Graphs

Bar Charts

In SAS Human Capital Management, a bar chart consists of a grid and vertical bars that represent numeric measures. For example, this bar chart shows the number of employees for each department in a (fictitious) company.

Figure 2.3 *Bar Chart of Number of Employees*



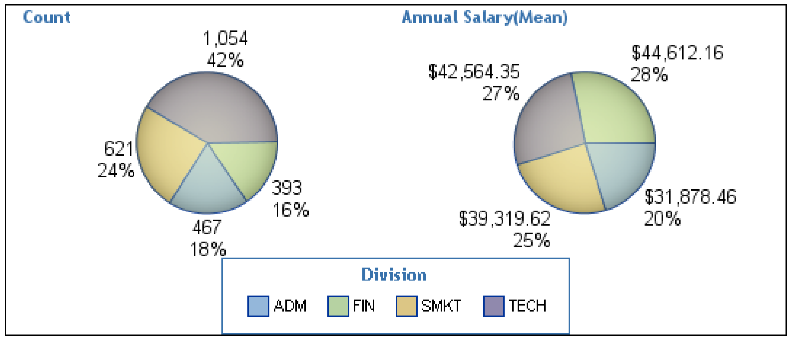
Bar chart properties are as follows:

Property	Description
Bar Height	Measures for this graph. Displayed along the vertical axis.
Bars	Category in which the measures are organized. Displayed along the horizontal axis.
Bar Subgroup	(Optional) Subcategory for the graph.
Horizontal Series	(Optional) Category for a horizontal set of graphs (one per category instance).
Vertical Series	(Optional) Category for a vertical set of graphs (one per category instance).
Statistics	Statistics to apply to the measures.

Pie Charts

A pie chart displays information in a circular format, with slices of the pie representing a category (called a segment). The size of each slice represents the relative contribution of that segment to the whole.

Figure 2.4 *Pie Charts Showing Employee Count and Annual Salary per Division*



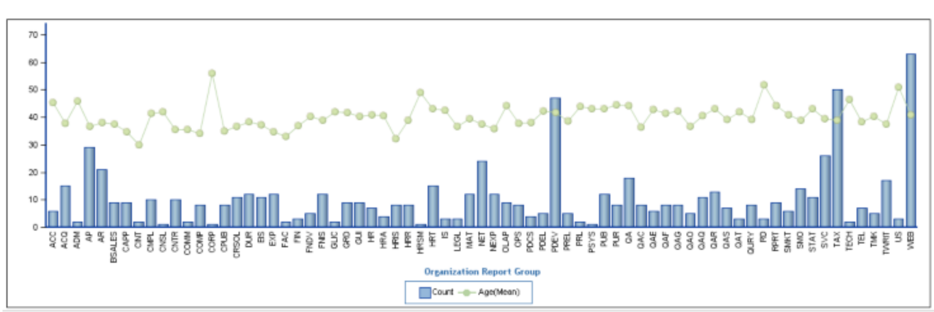
Pie chart properties are as follows:

Property	Description
Segment Size	Measures for this graph. Displayed as slices of the pie. If you select multiple measures, each measure is displayed in a separate pie chart.
Segments	Category in which the measures are organized. Displayed in the pie chart legend.
Pie Stacks	(Optional) Subcategory for the pie chart. Displayed in concentric circles.
Horizontal Series	(Optional) Category for a horizontal set of pie charts (one per category instance).
Vertical Series	(Optional) Category for a vertical set of pie charts (one per category instance).
Statistics	Statistics to apply to the measures.

Bar-Line Charts

A bar-line chart is a bar chart with an overlaid line graph. Notice that the same scale applies to both the bars and the line.

Figure 2.5 *Bar-Line Chart Showing Number of Employees and Average Age per Organization Report Group*



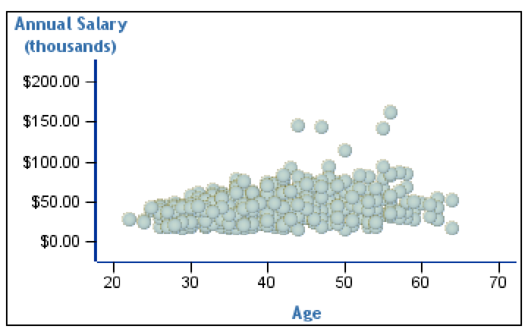
Bar-line chart properties are as follows:

Property	Description
Bar Height, **Line Height**	Measures for this graph. Displayed along the vertical axis as vertical bars and a line graph.
Category	Category in which the measures are organized. Displayed along the horizontal axis.
Horizontal Series	(Optional) Category for a horizontal set of graphs (one per category instance).
Vertical Series	(Optional) Category for a vertical set of graphs (one per category instance).
Statistics	Statistics to apply to the measures.

Scatter Plots

A scatter plot displays the relationship between two variables as a collection of points, one plotted along the vertical axis and one plotted along the horizontal axis. In SAS Human Capital Management, each point is represented by a filled circle.

***Figure 2.6** Scatter Plot Showing Relationship between Annual Salary and Age*



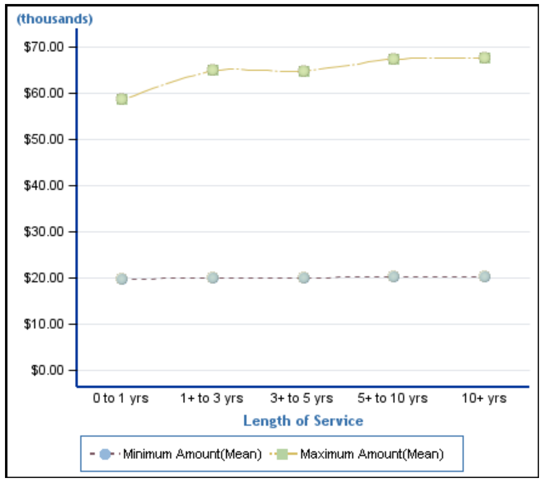
Scatter plot properties are as follows:

Property	Description
Vertical axis, **Horizontal Axis**	Measures for this graph. Displayed along the vertical and horizontal axes.
Marker Groups	(Optional) Category for the graph. Displayed in a legend. (Each marker group has a different color.)
Horizontal Series	(Optional) Category for a horizontal set of graphs (one per category instance).
Vertical Series	(Optional) Category for a vertical set of graphs (one per category instance).

Line Chart

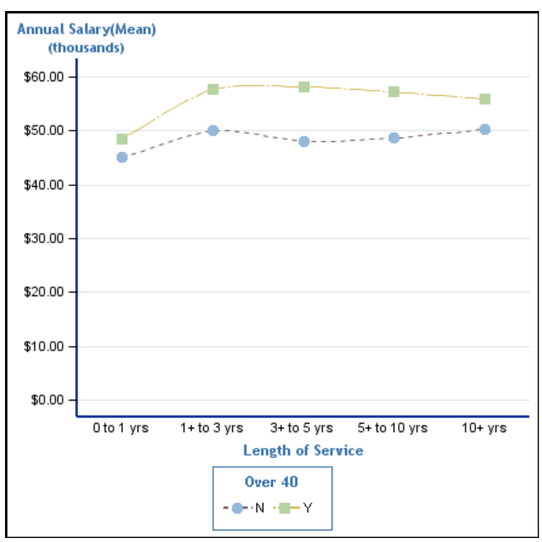
A line chart typically shows the relationship between two variables.

Figure 2.7 Line Chart Showing Maximum and Minimum Salaries, by Length of Service



A line chart might compare two different variables in the same category (as in the preceding example), or it might compare values of the same variable as plotted against two different categories. For example, you might compare the effect an employee's length of service has on salary, depending on the employee's age.

Figure 2.8 Line Chart Showing Average Salaries for Employees That Are Less than 40 Years Old and Over 40 Years Old, by Length of Service



Line chart properties are as follows:

Property	Description
Line Height	Measures for this graph. Displayed along the vertical axis.
Line	Category in which the measures are organized. Displayed along the horizontal axis.
Multiple Lines	(Optional) Subcategory for the graph.

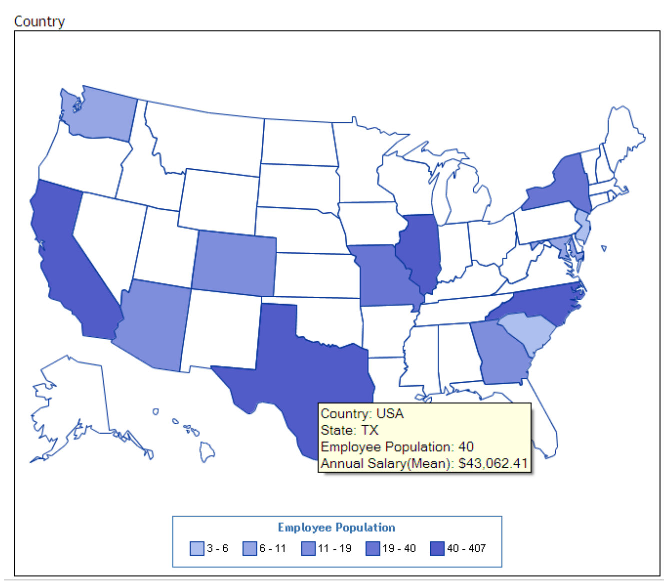
Property	Description
Horizontal Series	(Optional) Category for a horizontal set of graphs (one per category instance).
Vertical Series	(Optional) Category for a vertical set of graphs (one per category instance).
Statistics	Statistics to apply to the measures.

Geo Maps

To display search results in a geographic map, click the Geo Map button in the toolbar. The map that is displayed is chosen to fit the results, based on the maps that are defined for your site. For example, if all the employees in the search results lived in Ohio, a map of Ohio would be displayed. If the employees lived in multiple states, a map of the United States would be displayed, and if they lived in multiple countries, a map of the world would be displayed. No drill-down is permitted, unlike the maps in a geographic analysis.

As you position the mouse pointer over an area, a data tip lists the statistics for that area.

Figure 2.9 *A Geographic Map of the United States Displaying Search Results for an Annual Salary Range*



Geo map properties are as follows:

Property	Description
Display Measures	Measures for this graph. Displayed in the legend and in a data tip.
Statistics	Statistics to apply to the measures.

Chapter 3

The Workspace

About the Workspace

Workspace Tasks

The workspace displays the folders and files that are available from SAS Human Capital Management. In the workspace, you can perform the following tasks:

- organize content
  - move files from one folder to another
  - create shortcuts for folders or files in the workspace
  - add files to the SAS HCM Content portlet
  - rename files or folders
  - delete files or folders

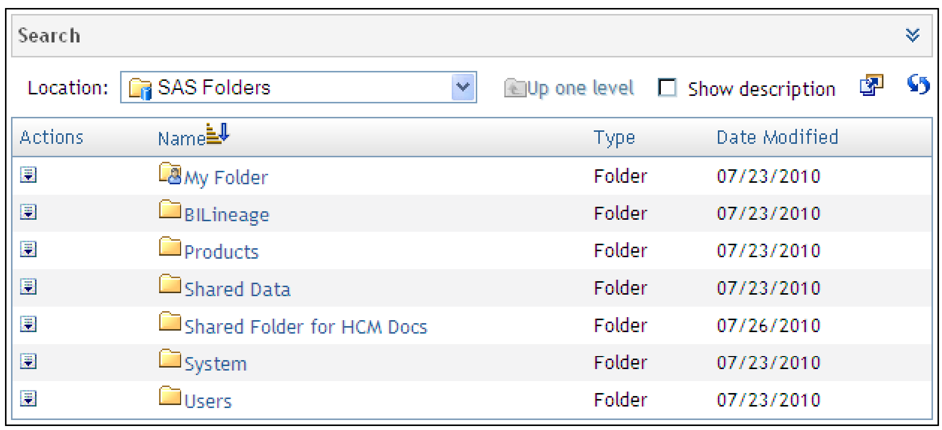
- search for content
- set permissions on content
- share content
- enable alert notifications to be sent for content changes

The actions you can perform depend on file and folder permissions.

How Folders Are Organized

The folder organization in the workspace reflects the organization in the metadata repository—a collection of information (metadata) about the data that makes up your SAS installation. Your permissions determine the folders that you can view and the tasks that you can perform. If you are not able to access a folder that you need, consult with your HCM administrator.

The top level of folders (**SAS Folders**) looks like this:



The following is a sample of folders you can find in the workspace and their location:

- **My Folder**: your personal folder, in which you typically store content that you create or import.
- **Products** ⇨ **SAS Human Capital Management**:
  - **5.2 Jobs**: SAS Data Integration Studio jobs
  - **Reports**: the standard stored processes and SAS Web Report Studio reports
  - **Data Sources**:
    - **Cubes**: generated cubes as well as jobs to build cubes
    - **Information Maps**: location for information maps
- **Shared Data**: content that is shared with other users (depending on permission settings)
- **System**: files that are used by the installed applications
- **Users**: a subfolder for each user (**Users** ⇨ ***your-login-name*** ⇨ **My Folder** is the same as **My Folder**)

Some of these folder locations are configurable by the HCM administrator. Your administrator might create additional custom folders for shared content at your site.

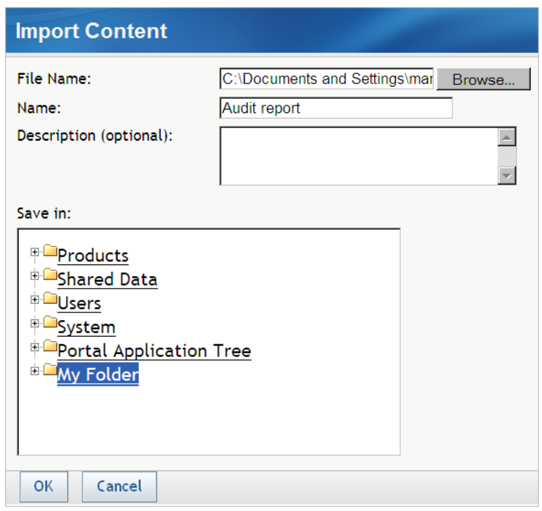
By default, the workspace sorts items by name in ascending order, with folders first and documents second. To reverse the sort order, or select a different column to sort on, click the column heading.

Managing Content in the Workspace

Import Content

To import content:

1. Click the Import Content toolbar button.
2. In the Import Content dialog box, click **Browse** to select a file.



3. Enter a name for the imported file.

   The name can have a maximum of 60 characters.

4. (Optional) Enter a description for the imported file.

   This description is displayed if the user selects the **Show description** check box in the workspace, and it can be searched.

5. Select a destination for the file and click **OK**.

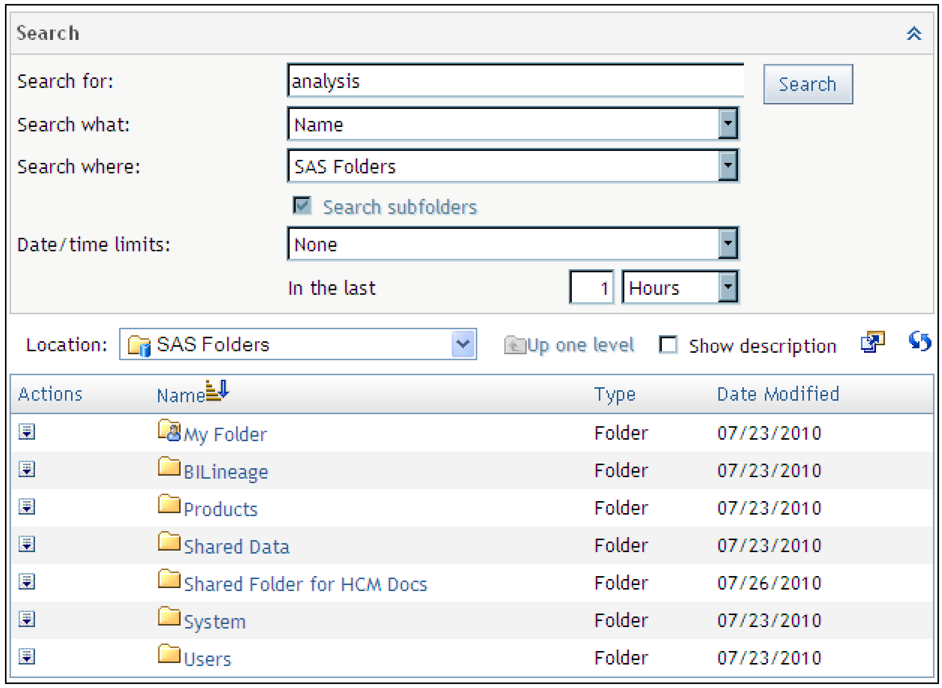
Refresh the Workspace

While you are in a session, other users might be making changes to the workspace content (for example, adding or deleting documents). To reflect these changes, click the Refresh Workspace toolbar button.

Search Content

To search for content:

1. Open the Search pane by clicking the Expand button at the top of the workspace.



2. Enter your search criteria. Do not use quotation marks. Searches are not case-sensitive.

   Search for
   Enter a search string (all or part of a filename, description, or key word). Searches are case-insensitive. An asterisk (*) can be used to match zero or more characters, as follows:

   - Add an asterisk to the end of the search string. For example, a search string of **geo*** would match files with names such as Geo_01, geo_02, or geoTest.
   - Add an asterisk to the beginning and end of the search string. For example, a search string of ***eo*** would match the preceding files, as well as files with names such as MyGeoAnalysis.
   - If you omit all wildcards in your search string, an asterisk is added to the beginning and end of the search string. If you include a wildcard in your search string, no additional wildcards are added.
   - A wildcard within a search string (for example, **My*Analysis**) is not permitted.

   Search what
   Select **Name**, **Description**, or **Keywords**.

   Search where
   Select a folder for the start of the search.

   Search subfolders
   Select this check box if you want to drill down below the starting folder.

   Date/time limits
   To restrict your search to a specific time period, select **Search for Files Modified**. Then specify a time period for the search.

3. Click **Search**.

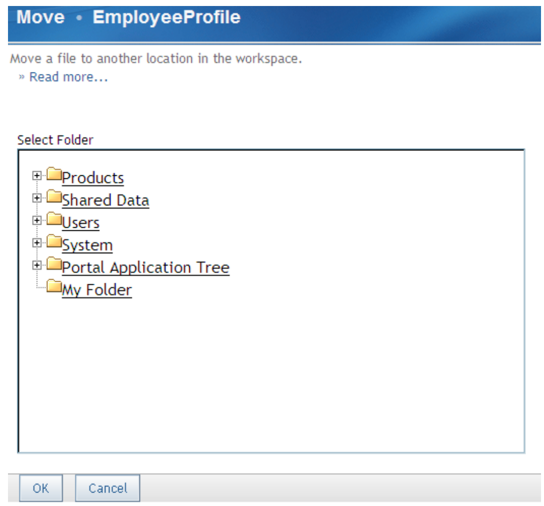
All matching documents are displayed in the **Search Results** folder. The action menu is available, just as it is for documents in the folder structure.

To return to a previous folder, select from the **Location** drop-down list.

Move Content

To move a document or folder in the workspace:

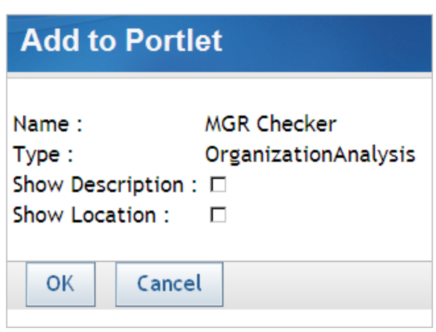
1. From the action menu at the left of the item, select **Move**.
2. In the **Move** dialog box, select a destination and click **OK**.



Add Content to the SAS HCM Content Portlet

By default, the SAS HCM Content portlet contains a link to the SAS Human Capital Management Home page. You can add shortcuts to additional content, as follows:

1. Click the action menu to the left of the item and select **Add To Portlet**.



2. On the Add to Portlet dialog box, select the **Show Description** check box to display the item's description (if there is one) in the portlet.
3. Select the **Show Location** check box to display the item's location in the portlet.
4. Click **OK**.

For more information about the SAS HCM Content portlet, see "The SAS HCM Content Portlet" on page 5.

Create a Shortcut

To create a shortcut (link) to a document or folder, click the action menu to the left of the item and select **Create as shortcut**. A link is added to the **Shortcuts** section of your Home page.

Share Content Via E-Mail

To send an e-mail message that contains a link to a document, click the action menu to the left of the item and select **Email Link**. An e-mail message is opened in Compose mode, containing a link to the item.

Delete Content

To delete a document or folder, click the action menu to the left of the item and select **Delete**.

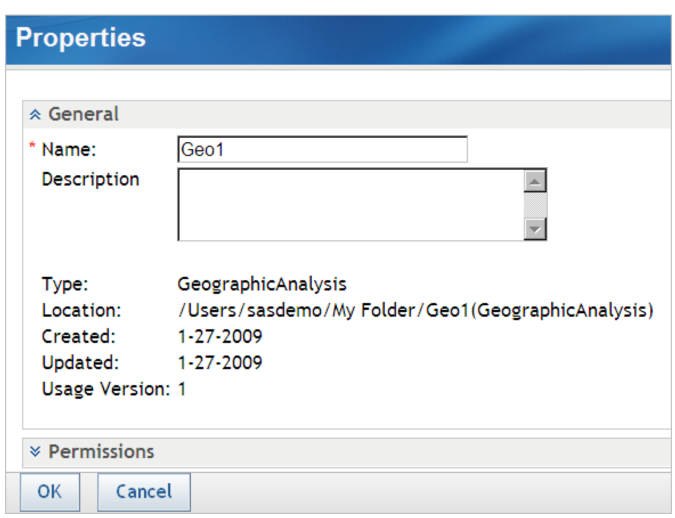
Setting Document and Folder Properties

About Document and Folder Properties

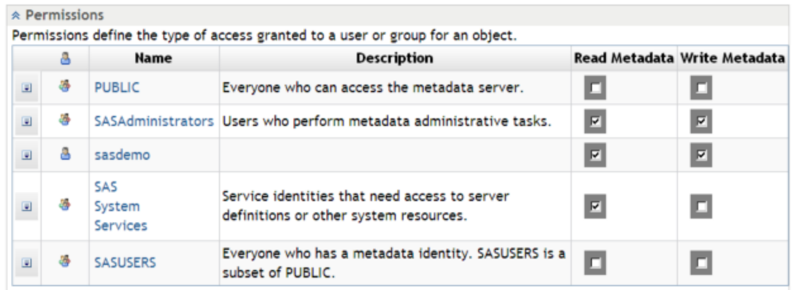
To open the properties for a document or folder, click the action menu to the left of the item and select **Properties**.

The top section of the Properties dialog box contains general properties about the item, such as its name and location. If you have the appropriate permission, you can modify the name or the description.

Note: You cannot rename an employee profile document.



The **Permissions** section of the dialog box contains information about permissions for the item.



Permissions

Permissions define the type of access granted to a user or group for an object.

Name	Description	Read Metadata	Write Metadata
PUBLIC	Everyone who can access the metadata server.		
SASAdministrators	Users who perform metadata administrative tasks.		
sasdemo			
SAS System Services	Service identities that need access to server definitions or other system resources.		
SASUSERS	Everyone who has a metadata identity. SASUSERS is a subset of PUBLIC.		

Permissions have the following meaning:

- **Read Metadata**: View an item.
- **Write Metadata**: Change or delete an item, or update its permissions.

For example, if you created a report that you wanted to make available to other users, you might move the report to a shared folder, making sure that those users or groups had **Read Metadata** permission for the report and for the folder containing the report. If you wanted those users to be able to update the report, then you would also grant them **Write Metadata** permission.

Set Permissions

To set permissions for a document or folder in the workspace:

1. For the appropriate user or group, click the box under the permission. There are four possible states:

	Direct grant: the user or group is directly granted the permission.
	Direct denial: the user or group is directly denied the permission.
	Inherited grant: the user or group inherits the permission from its containing folder.
	Inherited denial: the user or group is denied permission, based on permissions that were assigned to the containing folder.

2. To restore an inherited permission, click outside the box.
3. To add an identity (user or group) to the list, click **Add Users & Groups**. (See “Add Users & Groups” on page 31.)
4. To remove a user or group from the set of permissions, click the action menu at the left of the identity and select **Remove**.

   Note: You cannot remove folder permissions for a user or group if those permissions are inherited by a document in that folder.

Add Users & Groups

When you are setting permissions for a document or folder in the workspace, click **Add Users & Groups** to add one or more identities to the list. In the dialog box that appears, follow these steps:

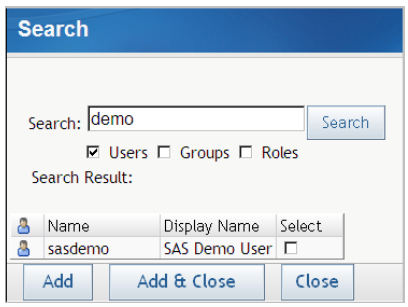
1. In the **Search** box, enter a search string.

   The search string is not case sensitive. You can enter the name of an identity (such as **sasdemo**) or its display name (such as **SAS Demo User**), or a partial search string (such as **demo**). Do not use quotation marks.

   To search for all identities within the specified scope, leave the search string empty.

2. Limit the scope of the search by selecting one or more identity types (such as **Users**).
3. Click **Search**.

   The search results display all matching identities.

4. Select one or more identities.
5. Click **Add** to add the identity and search for other identities. Click **Add & Close** to add the identity and return to the file properties.

Managing Alerts

About Alerts

An alert is an automatic notification of an electronic event that might be of interest to you. In the workspace, you can request to be notified when one or more of these events occur:

- a document's properties are changed, or the document itself is updated
- a document is moved
- a document is deleted

Note: Workspace alerts apply only to events that occur in the workspace. For example, if someone deletes a document in SAS Management Console, the workspace is not aware of that event.

Create an Alert

To add an alert to a document in the workspace, follow these steps:

1. In the workspace, click the document name and select **Alerts** from the action menu.
2. In the Workspace Alerts dialog box, make the following entries:

   Notify when
   Select one or more events to trigger the alert:

- **Workspace item updated**: Trigger the alert when the item or its properties are changed.
- **Workspace item moved**: Trigger the alert when the item is moved to another folder.
- **Workspace item deleted**: Trigger the alert when the item is deleted.

Alert name

Enter a name to identify the alert. This name appears in the subject line of an e-mail alert, or in the link of an alert in the portal. The default is the item's name.

Delivery method

Select a method for delivering the alert:

- **Display in portal**: Display the alert in an Alerts portlet.
- **Email**: Deliver the alert in an e-mail message.
- **Email and display in portal**: Display the alert in an Alerts portlet and send an e-mail notification.

3. Select **This alert is active**.
4. Click **OK**.

If the document is updated or moved, the alert notification contains a link to the document.

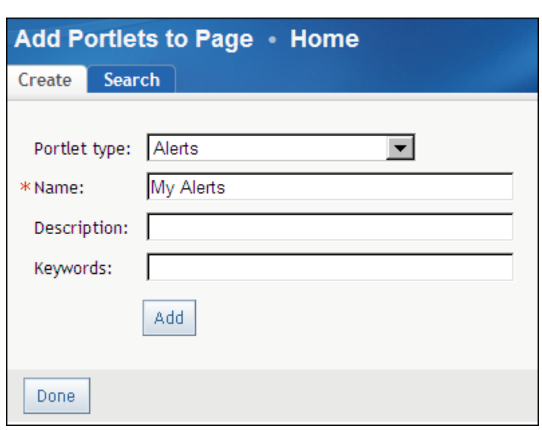
Disable an Alert

To disable an alert, open the alert properties and clear the **This alert is active** box.

View Alerts in a Portlet

Alert notifications can be sent in an e-mail message, they can be displayed in the portal, or you can select both mechanisms. To view alert notifications in the portal, you must add an Alerts portlet to your portal page. Follow these steps:

1. On the Home page, click **My Portal**.
2. In the portal, select **Customize** ⇨ **Edit Page** ⇨ **Edit Page Content**.
3. On the Edit Page Content page, select **Add Portlets**.
4. For the **Portlet type**, select **Alerts**.



5. Name the portlet.
6. (Optional) Add a description and keywords.

7. Click **Add**.
8. Click **Done**.
9. If your portal page uses a column layout, select the column in which your portlet should appear. If your portal page uses a grid layout, add the portlet to the grid.

   For details about the layout of portlets on a page, consult the online Help for the portal.
10. Click **OK**.

Chapter 4

The Employee Browser

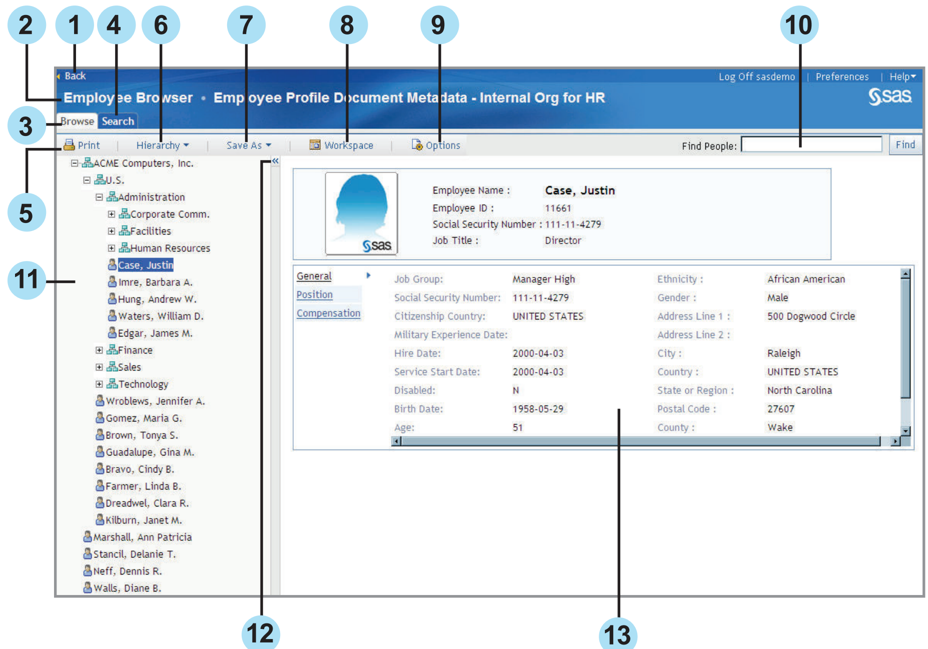
About the Employee Browser

A Quick Tour of the Employee Browser

In the Employee Browser, you can view a summary of information about a group of employees or view detailed information about a single employee. You can search for employees and print or export employee records or lists of employees.

To open the Employee Browser, click **My Employee Profile** on the Home page. The following figure shows the Employee Browser in Browse mode.

Figure 4.1 Employee Browser



1 Click **Back** to return to the Human Capital Management home page if on the Browse tab. Click **Back** to return to the Browse tab if on the Search tab.

2 At the top of the page is the description of the selected profile (in this case, **Employee Profile Document Metadata**) and the selected hierarchy (**Internal Org for HR**).

3 On the **Browse** tab, you can browse a hierarchy of employee data.

4 On the **Search** tab, you can search for employees using one or more criteria.

5 Click to print the table from the current page.

6 Use the **Hierarchy** menu to change the current hierarchy.

7 Open the **Save As** menu to export an employee summary as a Microsoft Excel workbook or a PDF file, or to export an employee record as a PDF file.

8 Click **Workspace** to manage files in the workspace.

9 Click **Options** to customize an employee profile.

10 Use the **Find People** utility to conduct a quick search for an employee or for a node in the hierarchy. Each time you click **Find**, the search returns the next matching record.

11 Use the navigation tree to make selections from the organizational hierarchy.

12 Click the Hide Left button « to hide the navigation tree. To display the tree again, click the Show Left button ».

13 The display area displays employee data, such as a summary of employees or information about a single employee.

Note: Not all features are available to all users. In addition, the information that is displayed is subject to security, as applied by your administrator.

About the Employee Profile

An employee profile determines the columns and tables that are displayed in the Employee Browser when you view an employee record, view a list of employees in an organizational unit, or conduct an employee search.

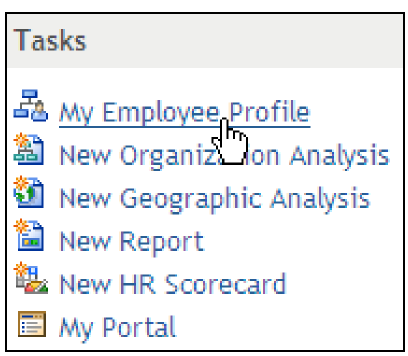
Typically, the type of data you need to see depends on your function in the company. For example, if you are a human resources specialist, you might be particularly interested in compensation data. If you are a manager who is planning a reorganization, you might be particularly interested in geographic data. Employee profiles enable you and your administrator to customize the display to suit your needs.

Some users need more than one employee profile. Your administrator can assign you two or more profiles, and you can select a profile to view. Each profile would provide a different view of the employee data.

Using the Employee Browser

Navigate the Hierarchy

To open the Employee Browser, select **My Employee Profile** from the **Tasks** menu, as shown in the following display:



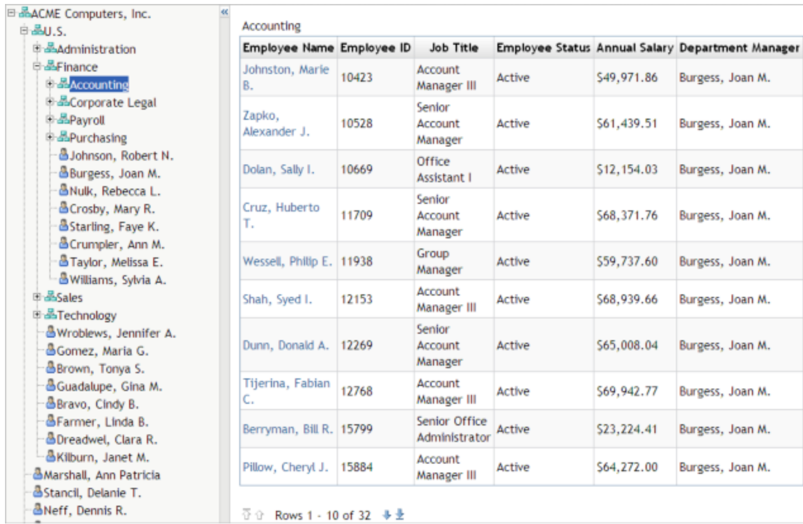
If you are not a manager, the Employee Browser opens to your employee record. Otherwise, it displays a summary for the highest node that you have permission to view, using the current employee profile. (For an explanation of employee profiles, see "About the Employee Profile" on page 37.)

In the left pane of the Browse window, you see the navigation tree, with nodes that represent companies, divisions, departments, or managers, based on the currently selected hierarchy.

To browse the employees in an organization:

1. In the navigation tree, click the name of a node (for example, a department name).

   A list of employees in that node appears in the display area. In this example, the Accounting department has been selected:



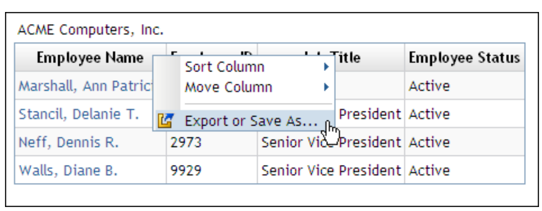
2. If the list contains more rows that can be displayed at one time, use the up and down arrows to navigate within the display.

   Note: In the Options dialog box, you can select the columns and the number of rows to display. See "Customizing an Employee Profile" on page 47.

3. Use the plus and minus buttons to expand or collapse nodes in the hierarchy.

4. Use the Hide Left « or Show Left » buttons to hide or redisplay the navigation tree.

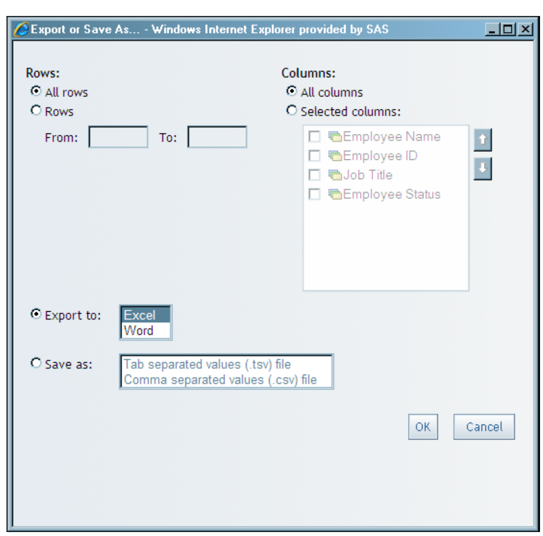
5. Right-click a column header to manipulate data.



   a. Sort columns by ascending or descending order. Select **Remove All Sorting** to undo sorting changes.

   b. Move columns to the left or right in the table.

   c. Export or save table information.



Note: If the selected columns for export are too many, you might receive an error using Internet Explorer. This can occur if the selected columns exceed the browser's URL limit of 2083 characters.

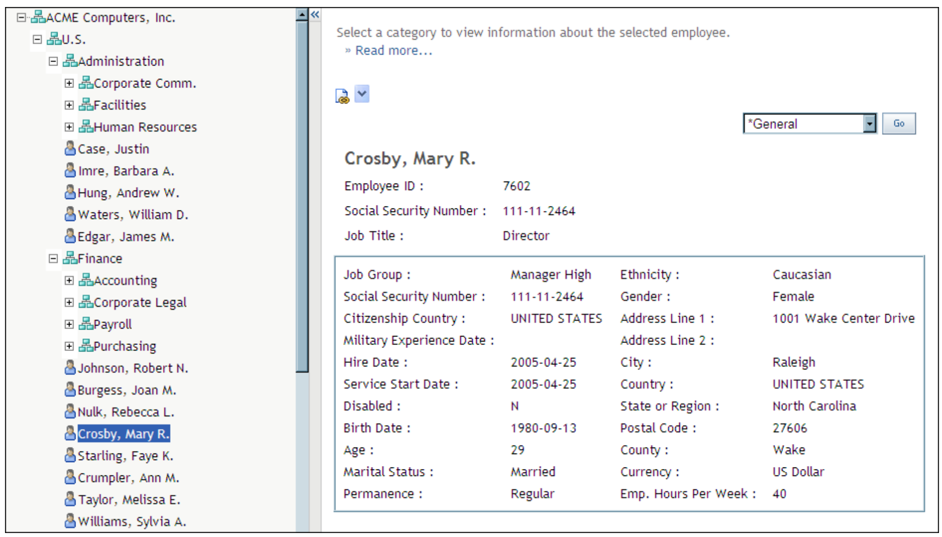
View Employee Data

To view information about an employee:

Note: The appearance of this page is determined by your HCM administrator. The layout for each profile can be different.

1. Click an employee name.

   That employee's record appears in the display area of the Browse window.



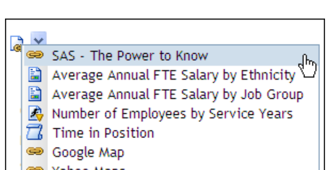
   The header might contain information such as employee name, status, and manager name. The header might also contain a photo of the employee, if one is available. Your administrator customizes the header.

2. The remaining information, such as job codes, compensation, and demographic information, is divided into categories. This information might be displayed in a box, on a tab, or in some other way, depending on customizations at your site. To display information from a different category, select that category in the display.

   Your administrator creates a default set of categories. You can further customize the display by adding tables and information maps to the list. See "Customizing an Employee Profile" on page 47.

   Note: Some information might not be displayed because security has been applied to it. For example, your administrator might restrict access to salary information.

3. If your administrator has defined any actions for your employee profile, those links are displayed in the **Actions** section of the display area (for example, links to an external Web page, to a stored process, or to a report). Here is an example.



   Click a link to perform the action.

Find People

The **Find People** box provides a quick search for an employee or a node in the hierarchy. It is available in the Employee Browser or in an organization analysis.

For example, to conduct a quick search for an employee whose last name is Kirby and whose first name begins with "W":

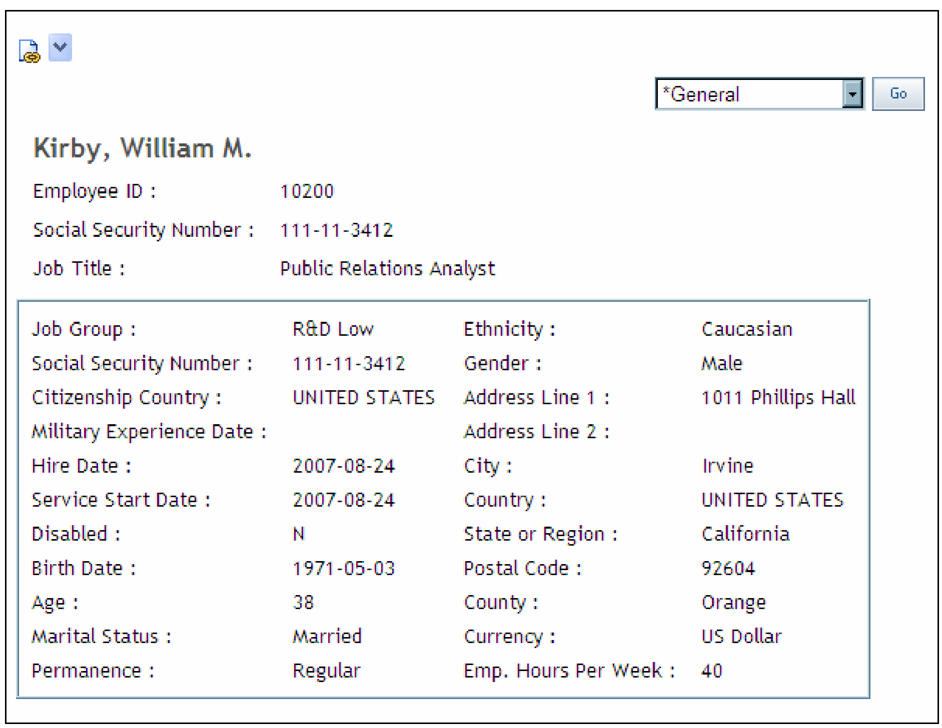
1. Enter the search string (such as **kirby, w**) in the **Find People** box.

The search string can contain one of the following:

- the employee ID (in whole or in part).
- the employee name (in whole or in part). It is not case-sensitive.
- The name or description of a node, such as a department or manager name (in whole or in part).

2. Click **Find**.

The first matching employee record is displayed.



If you entered a node name or description, a summary of employees for that node is displayed.

3. To search for the next matching record, click **Find** again.

Print Employee Data

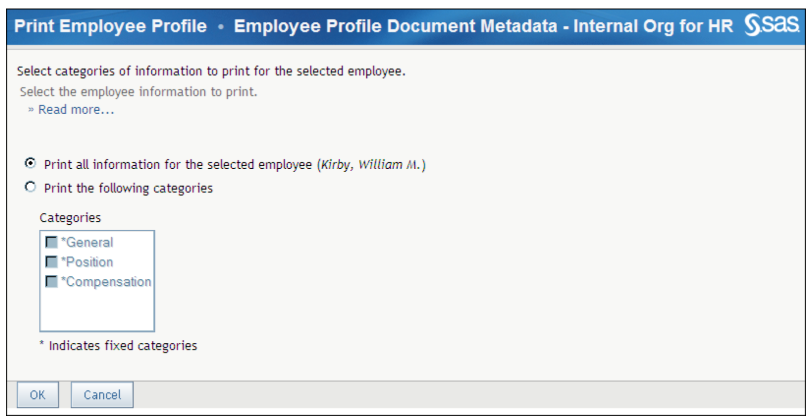
In the Employee Browser, you can print an employee summary or data for a single employee. The data is displayed in a separate window as a PDF file, which you can print or save.

To print an employee summary:

1. Select an organization node or perform a search.
2. Click **Print**.

To print data for a single employee:

1. Click an employee link (typically, the employee name).
2. Click **Print**.
3. The Print Employee Profile dialog box prompts you for the information to print.



   Make your selection from the radio buttons. You can print information from all categories, or you can select specific categories to include.

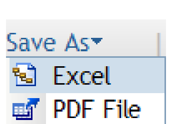
Export Employee Data

From the **Save As** menu, you can export employee data:

- Data for an individual employee can be exported to a PDF file.
- Employee summary data can be exported to a Microsoft Excel workbook or a PDF file. Only the summary data for the current node is exported. Subnodes are not included.

To export employee data:

1. From the navigation tree, select a node or an employee.
2. From the **Save As** menu, select **Excel** (employee summaries only) or **PDF File**.



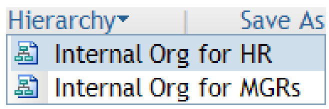
Note: When you export a file to Microsoft Excel, you might get a warning message that the file is in a different format than the one that is specified by the file extension. The message appears because the content is an XML stream rather than native Excel format.

Click **Yes** to open the file. In Microsoft Excel, when you save the file, save it in Excel Workbook format.

Change the Hierarchy

A typical hierarchy is a tree structure that shows parent-child relationships within an organization (such as a set of divisions and departments, or a hierarchy of managers). If your administrator has defined more than one hierarchy for use in the Employee Browser, you can select the hierarchy to view.

To change the hierarchy, select from the **Hierarchy** drop-down menu.



The display is refreshed using the new hierarchy selection.

Searching for Employees

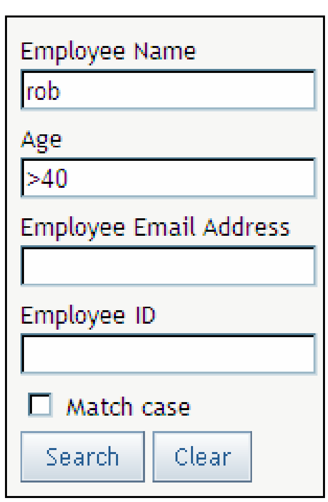
Search

In the Search window of the Employee Browser, you can search for employees who match certain criteria. Your administrator specifies the columns on which you can search. However, you can specify the information that is returned by the search. See “Customizing an Employee Profile” on page 47.

To search for matching employees:

1. In the Employee Browser, click the **Search** tab.
2. On the Search page, enter one or more search terms.

   If you enter more than one search term, an implicit AND is assumed between the terms. In this example, you are searching for an employee whose name contains the string "rob" and whose age is greater than 40.

3. For a case-sensitive search, select **Match case**.

Note: **Match case** does not apply if you specify the unformatted code for a formatted field.

4. Click **Search**.

The results (with names such as Robert S. Daniels and Jennifer A. Wroblews) are displayed in a table.

Employee Name	Age	Employee ID	Department Manager
Daniels, Robert S.	46	10004	Goddard, Kathryn N.
Davis, Robert P.	41	10650	Goddard, Kathryn N.
Roberson, Gregory M.	44	10887	Burgess, Joan M.
Wroblews, Jennifer A.	47	11766	
Robert, Dudley T.	49	16898	Johnson, Robert N.
Lee, Robert T.	41	19680	Burgess, Joan M.
Wroblews, Elizabeth N.	47	3792	Edgar, James M.
Wroblews, Barbara T.	58	5073	Goddard, Kathryn N.
Weaver, Robert J.	47	6345	Chang, Anthony C.
Keene, Robin A.	56	8238	Corl, Ammon B.
Zimmerman, Robert C.	43	9030	Vader, Ella

Note: If the selected columns for export are too many, you might receive an error using Internet Explorer. This can occur if the selected columns exceed the browser's URL limit of 2083 characters.

You can select the columns that are displayed in the search results. See "Customizing an Employee Profile" on page 47.

Click **Email All** to open an e-mail message window with the e-mail addresses of all employees in the search results on the **To** line.

Note: For a quick search for a single employee, you can also use the **Find People** function on the **Browse** tab.

Search Functionality

Summary of Options

The following options are available in a search from the Employee Browser or from a geographic analysis:

Table 4.1 *Employee Browser and Geographic Analysis Search Options*

Option	Employee Browser	Geographic Analysis
Ability to search for active or inactive employees	Active employees only	Depends on the selections made when the geographic analysis was created
Parentheses permitted around terms	Yes	No

Option	Employee Browser	Geographic Analysis
Logical operators (**AND**, **OR**) permitted	Yes	Yes
Comparison operators (=, !=, <, <=, >, >=) permitted	Numeric, date, and currency columns: yes Character columns: no	Numeric and currency columns: yes Date columns: `=` only Character columns: no
Wildcard searches (_ and **%**) permitted	Character columns only	Character columns only
Case-sensitive searches permitted	Yes	Yes
Exact match searches permitted	Yes	No
Searches on formatted values permitted	Formatted character columns only	No

Wildcards

You can use wildcards in character columns. Two types of wildcards are permitted:

_ (underscore)	matches exactly one letter.
%	matches zero or more letters.

If the search string includes no wildcards, the following actions occur:

- For unformatted character columns, a wildcard is added to the beginning and end of the string. For example, a string such as “john” would be processed as if it were “%john%” and would match names such as **`Littlejohn, Thomas`** and **`Smith, John`**.
- For formatted character columns (Employee Browser only), a wildcard is added at the end of the string. For example, an EEO classification string such as “office” would be processed as if it were “office%” and would match values such as **`Office and Clerical`**.

For examples of wildcard searches, see “Wildcards” on page 12.

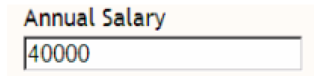
Relational Operators

You can use relational operators in numeric columns, including date and currency columns. (In a geographic analysis, only the `=` operator is permitted for date columns.)

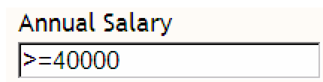
A relational operator can be one of the following:

=	Equal
!=	Not equal
>	Greater than
>=	Greater than or equal
<	Less than
<=	Less than or equal

The default operator for any numeric column is equal (**=**). For example, this string searches for employees with an annual salary of exactly $40,000 (assuming that the currency is U.S. dollars):



To search for employees with an annual salary of $40,000 or greater, you would use a search term like this:



Logical Operators

You can use logical operators in all columns. A logical operator can be one of the following: AND, OR (uppercase or lowercase).

To search for employees between the ages of 20 and 30, inclusive, you would enter the following search string:

```
>=20 and <=30
```

In an expression with multiple AND and OR operators without parentheses, the precedence of the operators is from left to right. For example, the following two strings are equivalent:

```
>20 and <30 or >40
```

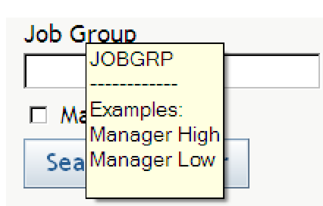
```
(>20 and <30) or >40
```

In the Employee Browser, you can use parentheses to explicitly set the precedence in an expression. In a geographic analysis, parentheses are not permitted.

Formatted Character Columns (Employee Browser Only)

In some cases, the format in which data is displayed is different from the format in which it is stored. For example, Job Group data might be stored as a code such as **`1H`**, but displayed as **`Manager High`**; or it might be stored as **`3T`** but displayed as **`Technical`**.

In the Employee Browser, when a character column is formatted, you can search by the display format or by the code. If you click the label for a formatted column, a data tip shows examples of the display format to be used in searching. For example, in the following figure, the Job Group column has a data tip. (You must type in the value; you cannot select a value from the data tip.)



Note: In a geographic analysis, you must search by the unformatted value.

Quoted Strings (Employee Browser Only)

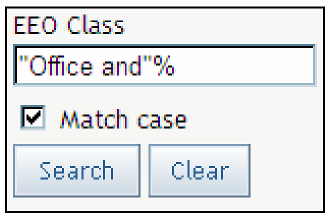
In the Employee Browser, for an exact match to a character string, use double quotation marks around the string. For example, the following string searches for an EEO classification that begins with "Office and", such as "Office and Clerical" or "Office and Managers":

```
"office and"%
```

Without the quotation marks, the search utility would interpret **`and`** as a logical operator, rather than as part of the string.

Note: With quoted strings, you must explicitly use wildcards. They are not supplied by default.

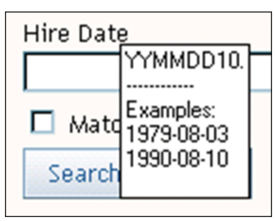
If you also wanted the search to be case sensitive, you would capitalize "Office" and select **Match case** at the bottom of the search pane:



Date Columns

When searching dates, you can search using the format *YYYY-MM-DD* (year-month-day) , *YYYY-MM* (year-month), or *YYYY* (year).

In the Employee Browser, a data tip appears if you click the label for a date column.



Here are some examples of searching by date:

Search string	Results
`2008`	Finds dates in which the year is 2008, regardless of the month or day. This is equivalent to a search string of **`=2008`**.
`2008-10-14`	Finds dates of October 14, 2008.
`>2002`	(Employee Browser only) Finds dates after 2002 (that is, 2003 and later).
`(>=2001 and <=2003) or (>2004 and <2008)`	(Employee Browser only) Finds dates between 2001 and 2003, inclusive, or dates after 2004 but before 2008.

Currency Columns

When a numeric column represents a currency, the search string can include or omit currency symbols (such as the dollar sign) or separators (such as a comma or decimal point).

Customizing an Employee Profile

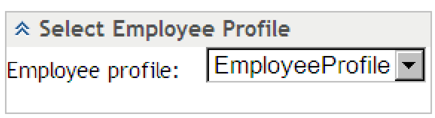
For each employee profile, your administrator designates certain information to be displayed (for example, the columns that are displayed in a list of employees). You cannot change those selections, but you can modify the columns that are displayed. For example:

- You can select the profile to be customized and displayed in the Employee Browser.
- You can add tables or information maps to the categories that are displayed when you view data for a single employee. Only the rows for that employee are displayed.
- You can select the information that is displayed in an employee summary when you click a node or perform a search.
- You can set the maximum number of rows that are displayed in a table.

Note: These customizations apply only to your profile. They do not change the profile's default settings.

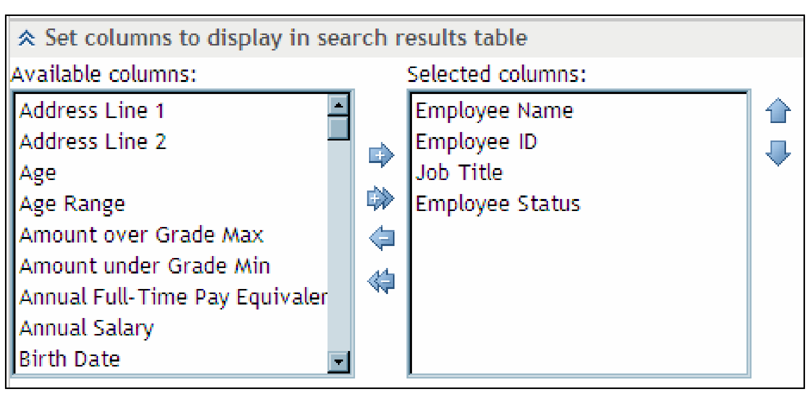
To customize an employee profile, click **Options**. Make one or more of the following changes:

1. **Select Employee Profile**: From the drop-down list, select a profile for customization and display.



2. **Set columns to display in search results table**: Select the columns that are displayed when you click a node (such as a department or manager name) or when you perform a search. The **Selected columns** list contains a default set of columns that are configured by the administrator. You can update this list by adding or removing columns.

   Note: By default, two columns (typically, **Employee Name** and **Employee ID**) are in the list of selected columns. Those columns cannot be removed.

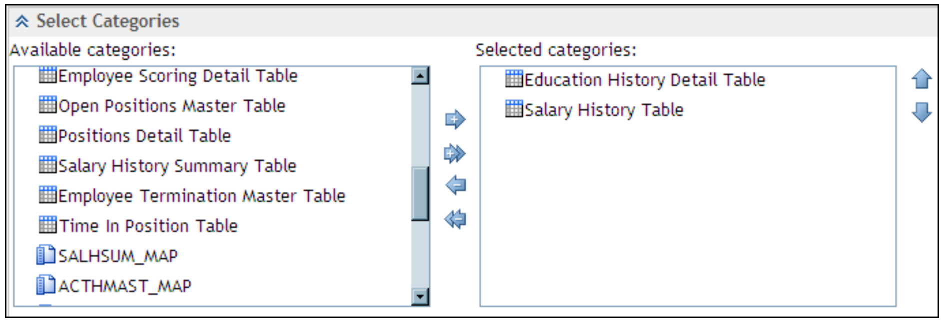


   a. To add columns to the display, move one or more columns from the **Available columns** list to the **Selected columns** list.

   b. To change the order in which the columns are displayed, use the up and down arrows next to the **Selected columns** box.

3. **Select Categories**: In an employee profile, certain categories of information (such as **General** and **Compensation**) are preselected by your administrator. You cannot change these fixed categories, but you can customize the display by adding tables or

information maps. For example, you might add a table that contains employees' salary history or absence history.

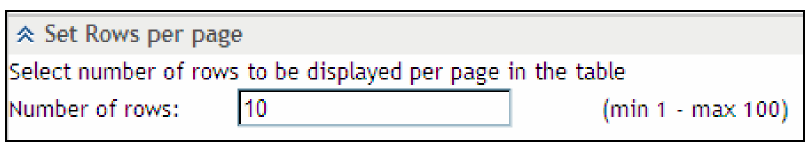


In the Employee Browser, the data is filtered to show only the records for the currently selected employee.

a. To add a table or information map to the display, select it from the **Available categories** list and click the Move to Target arrow.

b. To change the order in which the tables are displayed in the categories list, use the up and down arrows next to the **Selected categories** box.

4. **Set Rows per page**: In the **Number of rows** box, enter the number of rows that can be displayed at one time in a table.



5. Click **OK**.

Chapter 5
Organization Analysis

About Organization Analysis

A Quick Tour of Organization Analysis

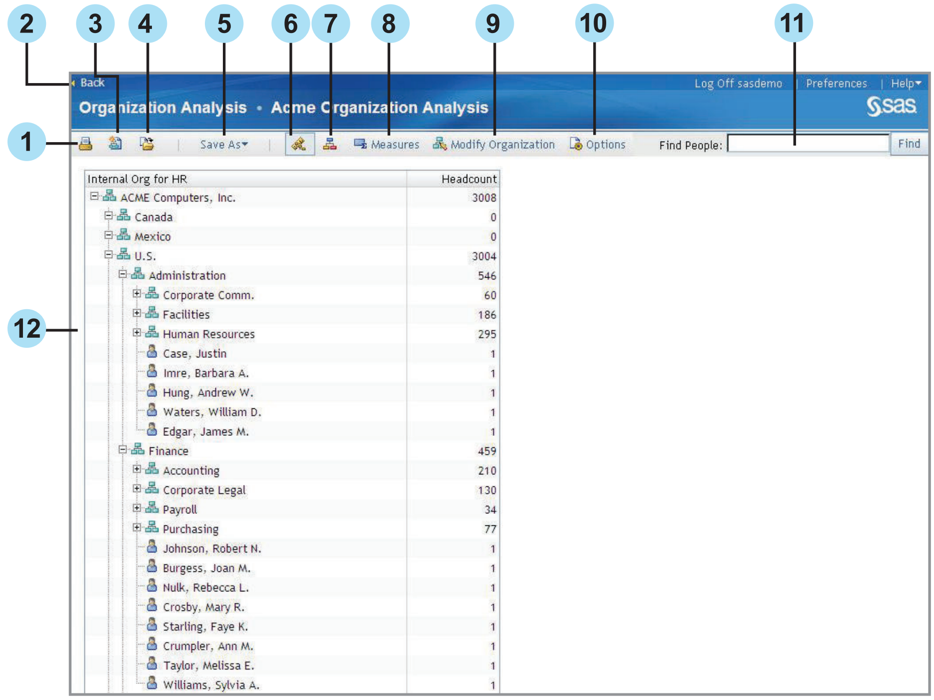
In an organization analysis, you can view the structure of an organization in a hierarchical table (analysis view) or a graphic representation (presentation view).

You can perform the following tasks:

- view summarized data for the organization in a hierarchical structure
- display statistics about the employee population
- display metrics such as the number of days positions are open, total bonus amounts, terminations, and compa-ratios in terms of the displayed hierarchy
- simulate organizational changes for workforce planning and modeling, by moving groups or people to see the effect on the displayed statistics

Here is part of an organization analysis that is based on sample data:

Figure 5.1 *Organization analysis*



1 Click to print an organization analysis.

2 Click **Back** to return to the Human Capital Management home page if in the analysis view. Click **Back** to return to the analysis view if in the presentation view.

3 Click to create a new organization analysis.

4 Click to copy an organization analysis.

5 Use the **Save As** menu to export an organization analysis.

6 Click to switch to analysis view, which displays the organization analysis in a hierarchical table. This is the default view.

7 Click to switch to presentation view, which displays the analysis in a graphic view.

8 Click **Measures** to select the statistics that are displayed in the analysis.

9 Click **Modify Organization** to simulate a reorganization by moving employees and departments to see the effect on the analysis measures.

10 Click **Options** to modify options for presentation view or associate a scorecard with an analysis.

11 Use the **Find People** utility to quickly search for an employee by name or employee ID, or for a node such as a department name or manager name.

12 The organization tree displays the selected hierarchy. Click a node or an employee's name to view data in the Employee Browser.

The remaining columns display the measures for each of the hierarchy nodes and the employees under each node.

Note: Not all features are available to all users. In addition, the information that is displayed is subject to security, as applied by the administrator.

Analysis View

To open an organization analysis, select the analysis from the workspace, from a link in an e-mail message, or from the shortcuts on your Home page.

Analysis view displays the organization analysis as a hierarchical table. (See Figure 5.1 on page 50.) In this view, nodes (such as companies, divisions, departments, or managers) are represented by an icon such as . Employees are represented by an icon such as . The rest of the table contains data about the current node or employee. To modify the statistics that are displayed, click **Measures**.

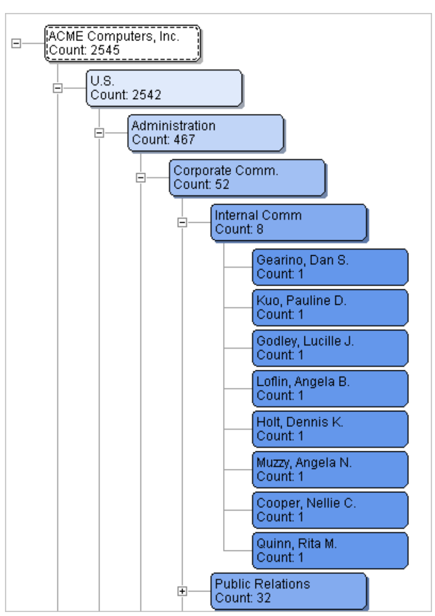
- Click the plus or minus symbols beside a node to expand or collapse its contents.
- Click a node to open the Employee Browser and display an employee summary for that node.
- If the display includes individual employees, click an employee name to open the Employee Browser and display information for that employee.
- From the toolbar, click the Presentation View button to display the organization analysis in a graphic view.

Note: Icons might look different for your site because they can be configured by the administrator.

Presentation View

The presentation view of an organization analysis displays the organization chart graphically, as shown in the following figure:

Figure 5.2 *Presentation view*



Click a node (such as a department name) to display the summary for that node in the Employee Browser. If the display includes individual employees, click an employee name to display that employee's profile.

When you are in presentation view, you can change the graphical display. Right-click a node and select one of these options:

Action Mode
controls the way the pointer behaves:

- Click **Select** to select a node.
- Click **Pan** to drag the pointer to move around the display.
- Click **Zoom** to drag the pointer up to dynamically increase the magnification, and down to decrease the magnification.

Zoom
sets the magnification level.

Show All Nodes
expands all nodes that you previously expanded and then collapsed.

Set Root
sets the current node as the root for the display. Use this option to display a subset of the organization.

Back to Last Root
reverts to the previous root.

Reset Root
returns to the base node (root node).

Find
displays the Find dialog box. Type an employee name (in full or in part). For a case-sensitive search, select **Match case**.

Select the direction of the search:

- Click **Across then down** to search nodes one row at a time when the layout of the tree is vertical.
- Click **Down then across** to search children of a node before sibling nodes when the layout of the tree is vertical.

Tree Layout
contains layout options for the organization chart:

- Click **Horizontal** to expand from left to right so that the highest level of the organization, or the root node, appears on the left side of the page, and the lowest level member nodes appear on the right side of the page.
- Click **Vertical** to expand from top to bottom and left to right so the highest level of the organization, or the root node, appears at the top of the page, and the lowest-level member nodes appear at the bottom of the page.
- Click **Vertical Stacked Leaves** to expand from top to bottom and left to right—except for leaf nodes (employees), which expand from top to bottom.
- Click **List View** to display nodes that have not been expanded below the parent node in a list.
- Click **Full Tree with Lens** to display multiple, expanded branches of the tree structure.
- Click **Sub Tree with Lens** to display a single, expanded branch of the tree structure.

Copy

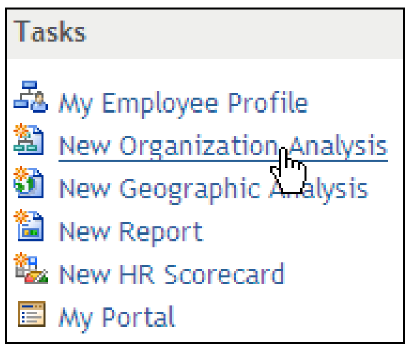
copies the content in an organization chart presentation view. Copied content can be pasted in another environment, such as an e-mail message or a Microsoft Office Word document or Power Point document.

Print

prints the current view.

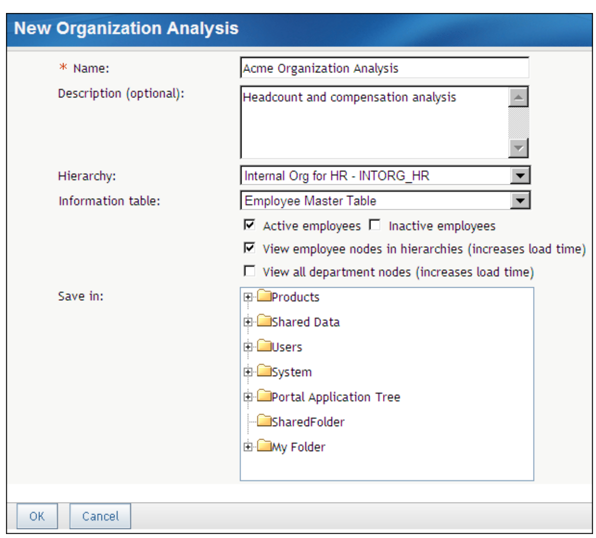
Create an Organization Analysis

To create an organization analysis, select **New Organization Analysis** from the **Tasks** menu on the Home page.



In the New Organization Analysis dialog box, follow these steps:

1. Give the analysis a unique name, which is displayed at the top of the organization analysis.



2. (Optional) Enter a description, which can be used in searches and displayed in the workspace. A description can contain alphanumeric characters, spaces, periods, commas, hyphens, and underscores.

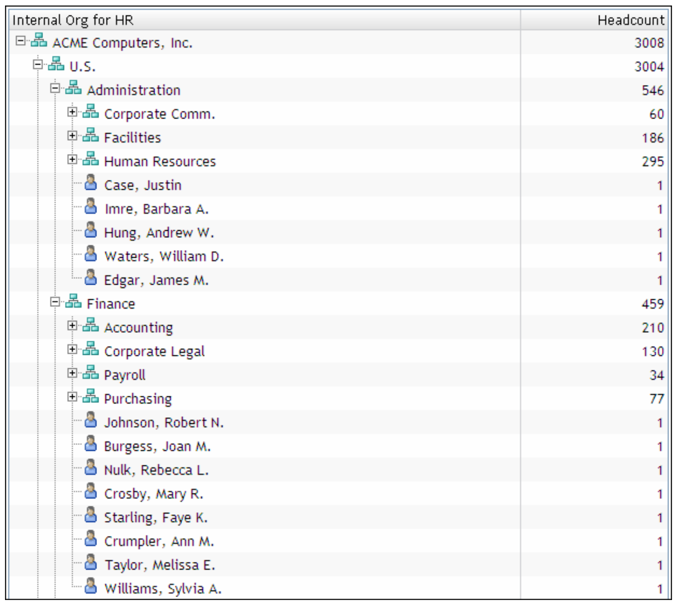
3. Select the hierarchy to view (in this example, the INTORG_HR hierarchy). A hierarchy is a tree structure that shows relationships within an organization. For example, employee data might be organized by division and department, or it might be organized by manager. The administrator defines the available hierarchies.

4. Depending on your hierarchy choice, the **Information table** drop-down list shows matching tables. Select a table such as the Employee Master table.

5. Select the employees to appear in the organization analysis: **Active employees**, **Inactive employees**, or both. If an information table does not contain an employee status column, then these options are dimmed.

6. If you select **View employee nodes in hierarchies**, then employees are listed under the node they belong to (for example, their department or manager).

   Figure 5.3 *Organization analysis without employee nodes*

Internal Org for HR	Headcount
ACME Computers, Inc.	3008
U.S.	3004
Administration	546
Corporate Comm.	60
Facilities	186
Human Resources	295
Case, Justin	1
Imre, Barbara A.	1
Hung, Andrew W.	1
Waters, William D.	1
Edgar, James M.	1
Finance	459
Accounting	210
Corporate Legal	130
Payroll	34
Purchasing	77
Johnson, Robert N.	1
Burgess, Joan M.	1
Nulk, Rebecca L.	1
Crosby, Mary R.	1
Starling, Faye K.	1
Crumpler, Ann M.	1
Taylor, Melissa E.	1
Williams, Sylvia A.	1

   By default, this check box is not selected, and only hierarchy nodes are displayed (for example, departments or managers).

7. Select **View all department nodes** if you want to view the complete hierarchy, including nodes that have no employees. This option is useful if you are simulating a reorganization. Each member of the hierarchy is included in the organization structure, even if the department has no employees, and even if you do not have permission to view the employees in that department.

   By default, this check box is not selected, and only departments with employees are included. This option is useful if you simply want to see the departments that you are authorized to view.

8. Click **OK**.

An administrator might have configured measures for the display by default. Typically, you will want to add some measures to the display. See “Select the Statistics to Display” on page 55. You can also select display options, such as the information that appears in a data tip for each employee. See “Select Display Options” on page 55.

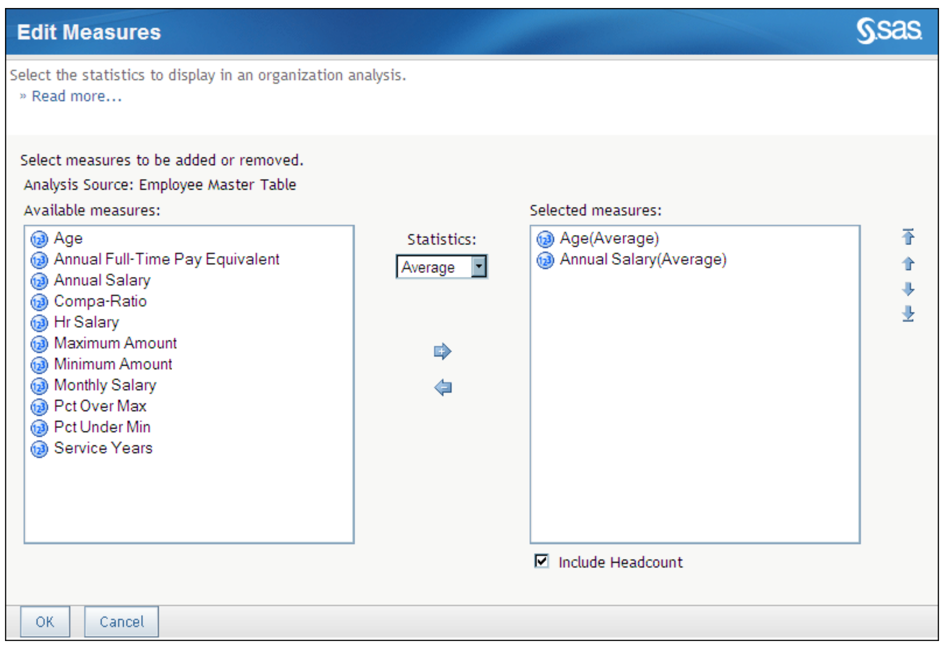
Work with an Organization Analysis

Select the Statistics to Display

After you create an organization analysis, you can select statistics to be displayed in a table (analysis view) or a data tip (presentation view).

1. Click **Measures**.
2. On the Edit Measures dialog box, select a measure (from the **Available measures** list) and a statistic (from the **Statistics** drop-down list). Use the right and left arrows to move measures to and from the **Selected measures** list.

   Note: The **Statistics** drop-down list does not apply for non-numeric measures.

3. To change the order in which these fields appear in the analysis, use the up and down arrows next to the **Selected measures** box.
4. If you do not want your analysis to include headcount numbers, clear the **Include Headcount** check box.
5. Click **OK**. The analysis is re-displayed, including the new measures.

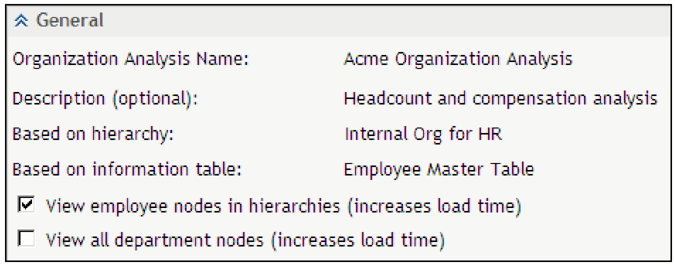
Select Display Options

To modify the display options for an analysis, click **Options**.

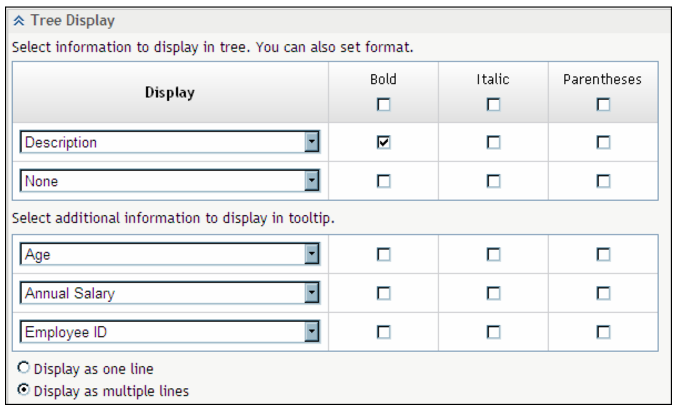
At the top of the Options page is general information about the analysis, including name, description, hierarchy, and table.

Modify the following options as needed:

1. **General**: Select whether to include employee data and empty nodes in the analysis. For an explanation of the **View employee nodes in hierarchies** and **View all department nodes** options, see "Create an Organization Analysis" on page 53.



2. **Tree Display**: Select additional information to display in the analysis.



Select information to display in tree

From the drop-down boxes, select one or more columns to display beside each node or employee symbol (in analysis view) or in a data tip (in presentation view).

- Select **Name** to display the node name (for example, the department code or manager ID) or employee name.
- Select **Description** to display the node description (for example, department name or manager title) or employee name.
- Select **Manager Name** to display the name of the manager that is associated with this node. For an employee, display the name of this employee's manager.

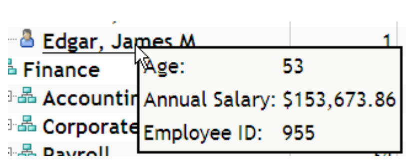
If you select **None** for both entries, the display defaults to **Description**.

Select additional information to display in tooltip

From the drop-down boxes, select one or more columns for display. This option applies only in analysis view, and only if you select **View employee nodes in hierarchies**.

The information is displayed in a data tip when the mouse pointer is over an employee name. If you select **None** for all entries, the employee name is displayed by default.

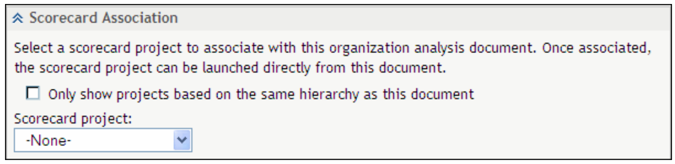
In this example, a user is displaying the data-tip information for employee James Edgar.



3. To modify the display format of any of these items, click the corresponding check box for **Bold**, **Italic**, or **Parentheses**. The format applies in analysis view only.

4. To display the data-tip information on a single line, select the **Display as one line** radio button. Otherwise, select **Display as multiple lines**.

5. **Scorecard Association**: Associate a scorecard with an organization analysis.



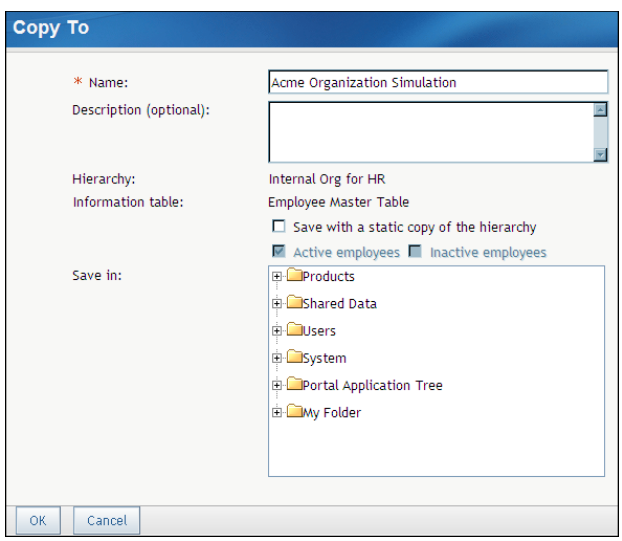
   a. Select **Only show projects based on the same hierarchy as this document** to select only from scorecards that are associated with the same hierarchy that is used in the analysis.

      Some scorecards are not associated with a hierarchy (for example, you might build a scorecard that contains only data that applies to the entire organization). To choose such a scorecard, clear the check box.

   b. From the **Scorecard project** drop-down list, select a project.

Copy an Organization Analysis

Click the Copy To toolbar button to create a copy of an organization analysis. A copy is useful as a backup or as the basis of a simulated reorganization.



The Copy To dialog box displays or enables you to enter the following information:

Name
: Type a name for the copy.

Description
: (Optional) Type a description.

Hierarchy
: (Read-only) Shows the hierarchy that applies to this organization analysis.

Information table
: (Read-only) Shows the master table that supplies the data for this analysis.

Save with a static copy of the hierarchy
If you select this check box, the copy is a snapshot of the data at the current time. A date stamp is added to the heading to identify it as a static copy. You cannot modify the analysis or use it as the basis for a simulation.

If you do not select this check box, the copy is dynamic and works in the same way the original analysis worked.

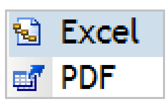
Active employees, **Inactive employees**
(Read-only) These check boxes are dimmed. They reflect the selections for the original analysis.

Save in
Select a folder in which to save the copy.

Export an Organization Analysis

In an organization analysis, the **Save As** menu enables you to export the current table of employee data to a Microsoft Excel worksheet or to a PDF file.

To export employee data, select **Excel** or **PDF** from the **Save As** menu.



From the dialog box that appears, select whether to display the information in a browser or save it in a file.

Note: The name, description, manager name, hierarchy code, and modified flag ("IsModified") are always exported. The modified flag indicates whether the node is modified or not. A value of 0 indicates that the node was not modified. A value of 1 indicates that the node was modified. A value of 2 for a parent node indicates that a child node was modified. For example, if an employee moves from one department to another department, the employee will have a modified flag value of 1, and the department that the employee left will have a modified flag value of 2.

Print an Organization Analysis

To print an organization analysis from analysis view, click the Print current view button on the toolbar.

In presentation view, right-click the organization chart and select **Print** to print the current view.

Modify the Organization Structure

In an organization analysis, you can simulate a reorganization by moving employees and nodes within the organization tree. For example, you could move several departments to a division that is located in another city, or you could change the reporting relationships within an area of the organization. After making your changes, return to analysis view to see the effects of your restructuring. If you installed SAS Financial Management, you can export the results and view them in SAS Financial Management Studio.

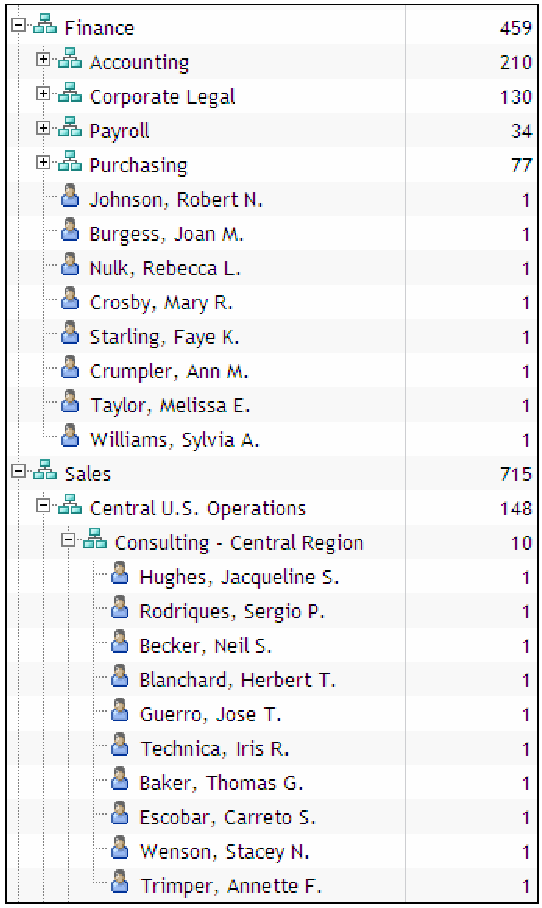
Modifying the organization structure does not affect the underlying data or any other organization analyses. It simply creates a what-if scenario in which you can try out various changes to the organization.

Note: After you log off SAS Human Capital Management, you can no longer add measures to a modified organization analysis.

Here is a simple example of a simulation using the sample data. Assume that you want to make some changes in the Finance division.

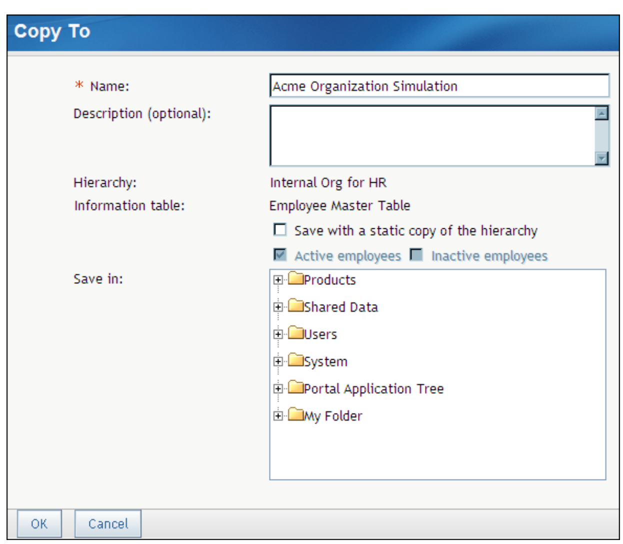
Internal Org for HR	Headcount
ACME Computers, Inc.	3010
U.S.	3006
Administration	546
Corporate Comm.	60
Facilities	186
Human Resources	295
Finance	459
Accounting	210
Corporate Legal	130
Payroll	34
Purchasing	77
Sales	715
Central U.S. Operations	148
Eastern U.S. Operations	196
Product Delivery	79
Telemarketing	72
Western U.S. Operations	206

You decide to move two employees (Robert Johnson and Joan Burgess) to positions in the **Consulting – Central Region** department (under **Sales** ⇨ **Central U.S. Operations**).



Here are the steps that you would follow:

1. First, make a copy of the existing analysis. (This step is recommended but not required.)
   a. On the Copy To dialog box, give the copy a name that identifies it as a simulation or reorganization.

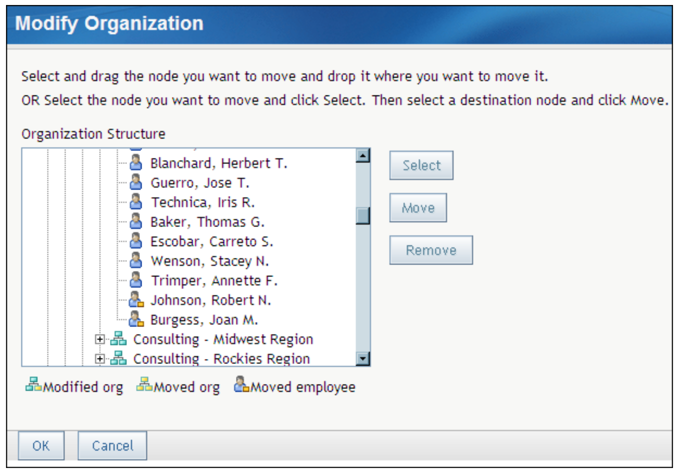


   b. Do not select **Save with a static copy of the hierarchy**.
2. In the copy, from analysis view, click **Modify Organization** in the toolbar.

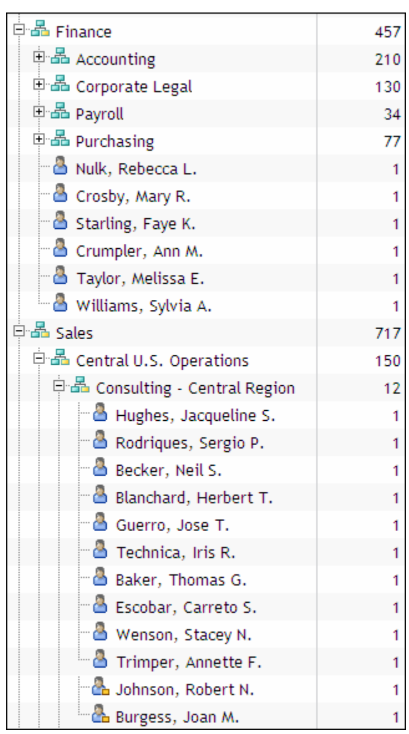
3. On the Modify Organization dialog box, drag the two employees' names to the **Consulting – Central Region** node. The moved employee icons indicate that they are moved employees.

   Note: If you are moving a node, drag the node link, not the icon.

   The partial result looks like this:



Click **OK** to save your changes. Following the save, notice the difference in the headcount and salaries for the **Consulting – Central Region** node and its parent nodes, as well as the **Finance** node. Notice, also, the new icons for the employees nodes that were modified.



In addition to using drag and drop, you can use the **Select** and **Move** buttons:

1. Click a node or employee name.

   Note: Click the text rather than the icon.

2. Click **Select**.

3. In the **Organization Structure** tree, click the target node.
4. Click **Move**.

To delete a node, select the node and click **Remove**.

Chapter 6

Geographic Analysis

About Geographic Analysis

A Quick Tour of Geographic Analysis

In a geographic analysis, you can analyze workforce data by geographic region. The screen displays a map of the world, a country, or a smaller geographic area. As you position the mouse pointer over a region, a data tip displays statistics for that area (for example, number of employees, average age, or minimum hourly wage). In table view, you can view detailed information about the selected area.

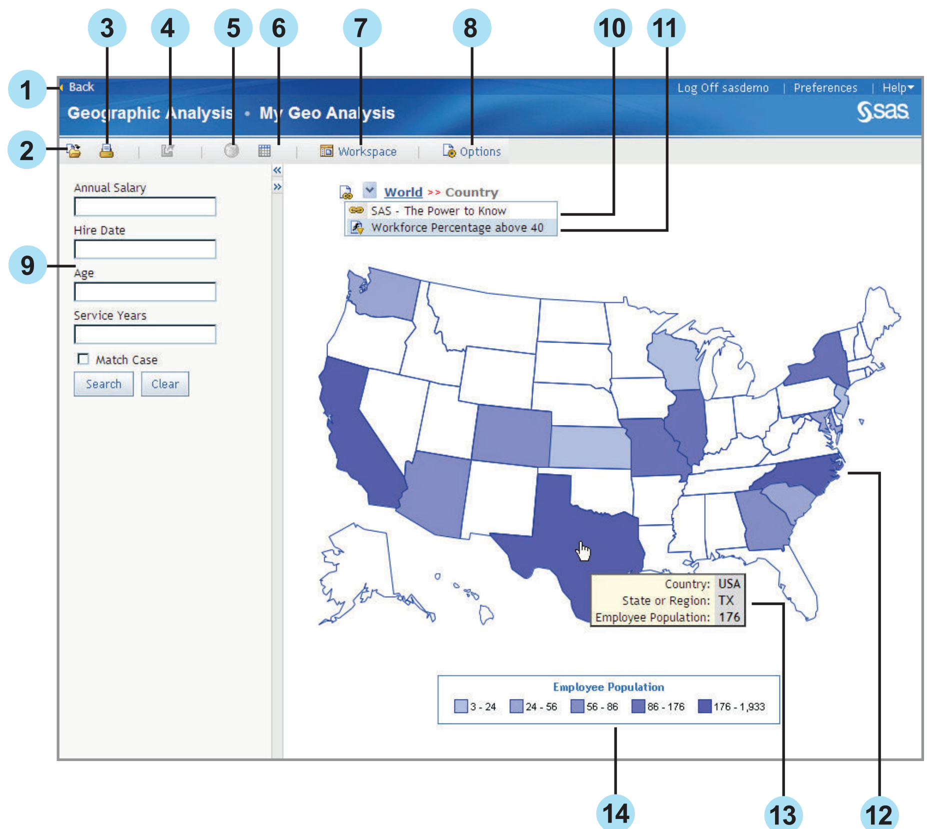
Some possible uses for a geographic analysis include determining where employees are located, viewing dependent coverage geographically, and viewing the population distribution of your company to determine optimal expansion locations.

Geographic analysis enables you to perform these actions:

- drill down to more detailed maps (for example, from the world to a country, and from a country to a state)
- select the statistics to be displayed on each map
- filter the results (for example, to display employees in particular job classifications)
- view employee data in a table
- print the current map or table view, or export the table view to a Microsoft Excel worksheet

Here is an example geographic analysis. The user has drilled down to a map of the United States. The mouse pointer is over the state of Illinois, and a data tip lists statistics for that state. Colored regions on each map indicate the number of employees in each area. A legend at the foot of the screen lists the colors and the associated ranges.

Figure 6.1 *Map view of a geographic analysis*



1 Click **Back** to return to the last page visited. For example, if you are in map view, and then switch to table view, clicking **Back** will return you to map view.

Note: If you make a copy of a geographic analysis, clicking **Back** returns you to the last page visited in the copy.

2 Click to copy the current geographic analysis.

3 Click to print the current view (map or table view).

4 Click to export geographic analysis data to a Microsoft Excel file (available in table view only).

5 Click to switch to map view, which displays the geographic analysis in a map.

6 Click to switch to table view, which displays the geographic analysis in tabular format.

7 Click **Workspace** to manage documents in the workspace.

8 Click **Options** to set options for this geographic analysis, including drill-down levels, color mapping, statistics to display, search criteria, and columns to display.

9 Use the search pane to filter the display.

To hide the search pane, click the Hide Left button «. To redisplay the search pane, click the Show Left button ». To hide the map, click the Hide Right button » when the search pane is displayed.

10 The map link provides navigation back to higher-level maps.

11 The external actions drop-down menu contains links that your administrator has defined (such as Web page URLs or links to reports).

12 The display pane displays the map or table view.

13 Position the pointer on a shaded area to display information for that geographic region.

14 The legend displays the association between colored map regions and headcount ranges.

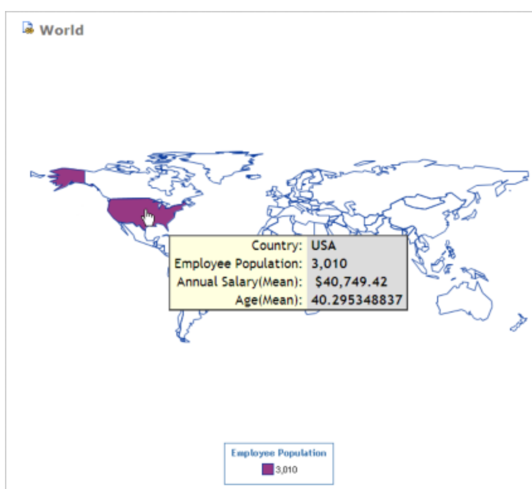
Note: Not all features are available to all users. In addition, the information that is displayed is subject to security, as applied by the administrator.

Map View

To open a geographic analysis, select the analysis from the workspace, a shortcut, or a link in an e-mail message. The analysis opens in map view, which displays a map of a geographic area. As you position the mouse pointer over an area, statistics for that area are displayed in a data tip.

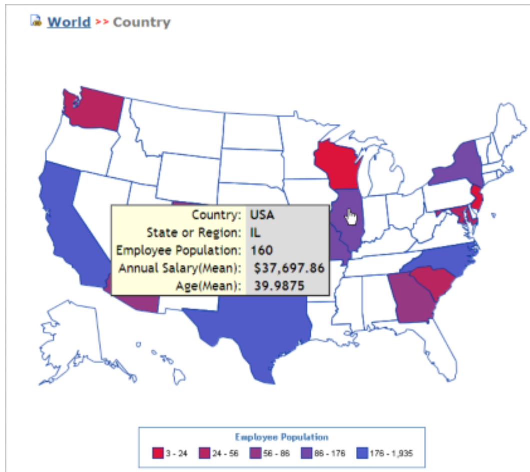
Maps are organized into hierarchies, with the most comprehensive map at the highest level. For example, a map hierarchy might consist of the three levels **World**, **Country**, and **State**. Here is an illustration of navigating those map levels:

1. Open the analysis and view the world map.



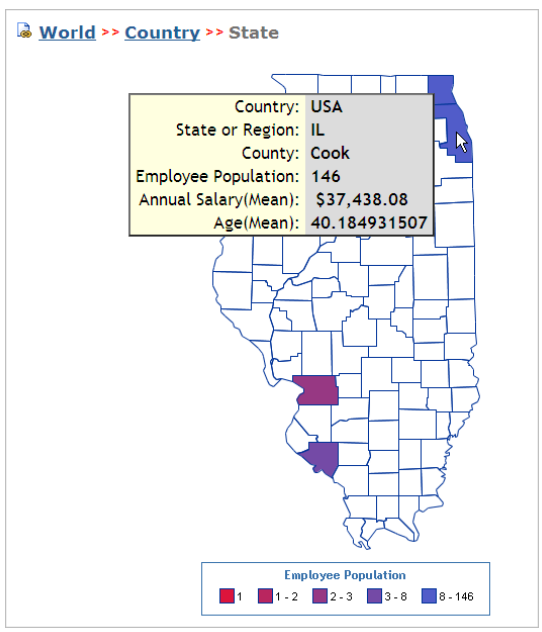
When the mouse pointer is over the United States region of the map, a data tip displays statistics for that country.

2. Click the United States region of the map to drill down to the next level, a country map:



The legend displays the headcount ranges that are associated with each color on the map. When the mouse pointer is over the state of Illinois, a data tip displays statistics for that state.

3. Click the Illinois region of the map to drill down to the next level, a state map:



When the mouse pointer is over Cook County, a data tip displays statistics for that county. However, because there are no more levels in this hierarchy, clicking the Cook County region does not drill down to a lower-level map.

4. To return to a previous level, click a map link (such as **Country** or **World**) at the top of the screen.

- To customize a geographic analysis (by selecting colors, statistics, and map levels), click **Options**. (See "Customize a Geographic Analysis" on page 71.)
- To filter the statistics that are displayed for a map, use the search pane. (See "Filter a Geographic Analysis" on page 69.)
- At any point, you can click the Table View button to switch to a summary of employees that correspond to the current map. (See "Table View" on page 67.)

Table View

In geographic analysis, table view presents a summary of employee data. The data is filtered to match the geographic region that you selected in map view. For example, if you drill down to the state of Illinois in map view, and then switch to table view, you see a list of employees in Illinois.

World >> Country >> State

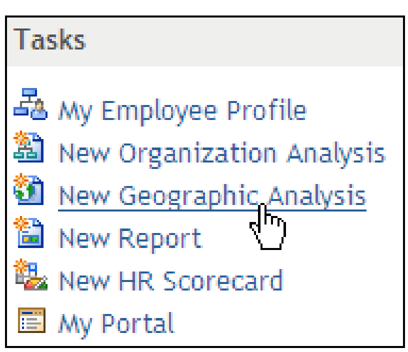
Employee Name	Employee ID	City	State or Region	Age Range	Position Code	Annual Salary
Zal, Amanda O.	10074	Winnetka	Illinois	25 to 34 yrs	OAIII006	$21,393.53
Nash, Stacy A.	10156	Winnetka	Illinois	35 to 44 yrs	ADI1215	$43,160.00
Moreschi, Ralph M.	10225	Winnetka	Illinois	35 to 44 yrs	LCIII009	$94,754.94
Jackson, Melanie E.	10238	Bartlett	Illinois	25 to 34 yrs	PAIII020	$54,872.48
Churchill, Joseph R.	10267	Chicago	Illinois	45 to 54 yrs	TSIII004	$43,263.79
Wang, Jean Y.	10324	Glenview	Illinois	35 to 44 yrs	TTA016	$31,574.40
Gilmore, John E.	10325	Winnetka	Illinois	25 to 34 yrs	HIII014	$22,439.86
Jeburk, Christopher O.	10386	Chicago	Illinois	25 to 34 yrs	CPRA065	$46,987.20
Pichard, Kay S.	10406	Glenview	Illinois	25 to 34 yrs	HII016	$20,262.49
Burgess, Christine A.	10438	Chicago	Illinois	25 to 34 yrs	CSRII044	$25,674.22

Rows 1 - 10 of 160

- Click an employee name to view that employee's information in the Employee Browser.
- To select the columns that are displayed in table view, click **Options**. (See "Customize a Geographic Analysis" on page 71.)
- To filter the employees that are listed in table view, use the search pane. (See "Filter a Geographic Analysis" on page 69.)
- To switch to map view, click the Map View button .

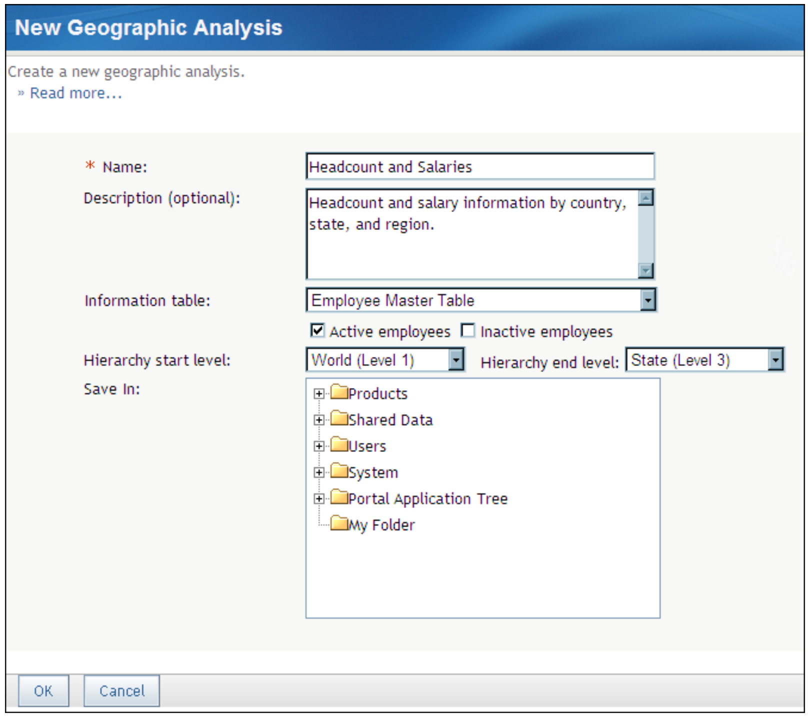
Create a Geographic Analysis

To create a geographic analysis, select **New Geographic Analysis** from the **Tasks** menu of SAS Human Capital Management.



On the New Geographic Analysis dialog box, follow these steps:

1. Enter a name for the analysis.



2. (Optional) Enter a description, which can be used in searches and displayed in the workspace. A description can contain alphanumeric characters, spaces, periods, commas, hyphens, and underscores.

3. From the **Information table** list, select a table, such as the Employee Master table, to provide the data for the analysis.

4. Select **Active employees**, **Inactive employees**, or both to display those employees' records. If the source table does not contain a column that denotes active or inactive employees, these check boxes are dimmed.

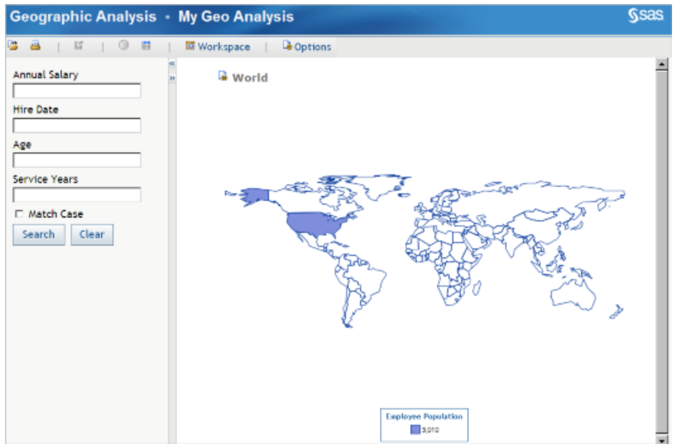
5. Decide which maps you want to display. The administrator defines a hierarchy of maps, from most general to most specific. When you create a geographic analysis, you can choose to display all the maps or a subset of the maps.

   For example, if the available maps are **World**, **Country**, **State**, and **County**, you might decide to begin at the **World** level or at the **Country** level. If you did not want to display county maps, you would make **State** your end level.

6. Select a folder in which to save the analysis.

7. Click **OK**.

The geographic analysis is saved, and the top-level map is displayed.



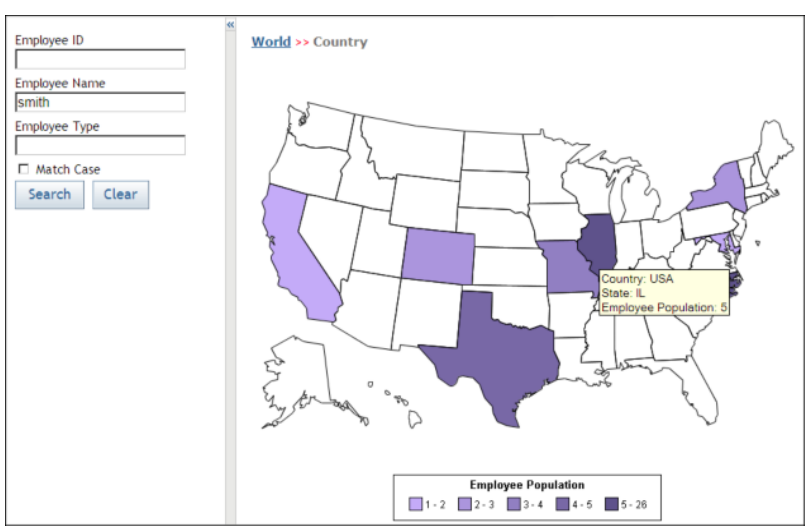
So far, the map is not very interesting or informative. The legend at the foot of the map displays the headcount, but nothing more. You need to modify the analysis to add statistics. At the same time, you can modify the colors that are used in the map, define search criteria for filtering the data that is displayed in the analysis, and select the columns that are displayed in table view.

For information about setting any of these options, see "Customize a Geographic Analysis" on page 71.

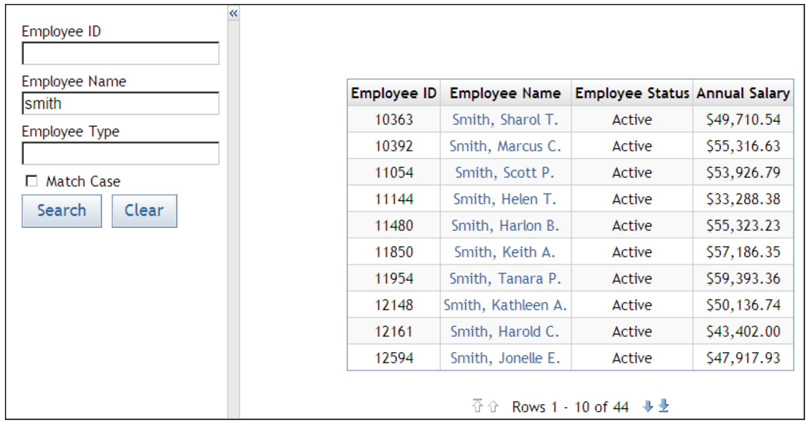
Filter a Geographic Analysis

Use the search pane to filter the data in a geographic analysis. The search filter affects both the statistics that are displayed in map view and the data that is displayed in table view.

In this example, the user has filtered the data to select only employees whose last name includes the string **`smith`**. Notice that the employee headcount is significantly smaller in the filtered map.



Click the Table View button to see the search results in tabular format.



Employee ID	Employee Name	Employee Status	Annual Salary
10363	Smith, Sharol T.	Active	$49,710.54
10392	Smith, Marcus C.	Active	$55,316.63
11054	Smith, Scott P.	Active	$53,926.79
11144	Smith, Helen T.	Active	$33,288.38
11480	Smith, Harlon B.	Active	$55,323.23
11850	Smith, Keith A.	Active	$57,186.35
11954	Smith, Tanara P.	Active	$59,393.36
12148	Smith, Kathleen A.	Active	$50,136.74
12161	Smith, Harold C.	Active	$43,402.00
12594	Smith, Jonelle E.	Active	$47,917.93

For information about valid search terms, see “Search Functionality” on page 43.

The geographic analysis has several default search columns. To modify the columns that are used as search criteria, or to modify the columns that are displayed in table view, click **Options**. See “Customize a Geographic Analysis” on page 71.

Print a Geographic Analysis

To print a geographic analysis from map view or table view, click the Print button in the toolbar.

Export a Geographic Analysis

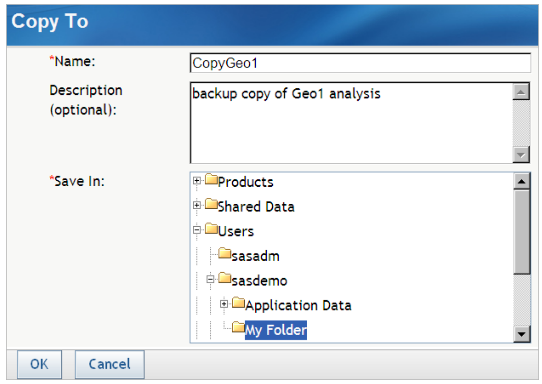
To export a geographic analysis to a Microsoft Excel file:

1. In the geographic analysis, click the Table View button in the toolbar.
2. Click the Export button .

Copy a Geographic Analysis

To make a copy of a geographic analysis:

1. From map view, click the Copy To button .
2. In the Copy To dialog box, enter a name for the copy.



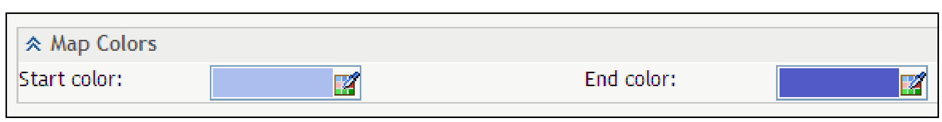
3. (Optional) Enter a description, which can be used in a search.
4. Select a location in which to save the copy.
5. Click **OK**.

Customize a Geographic Analysis

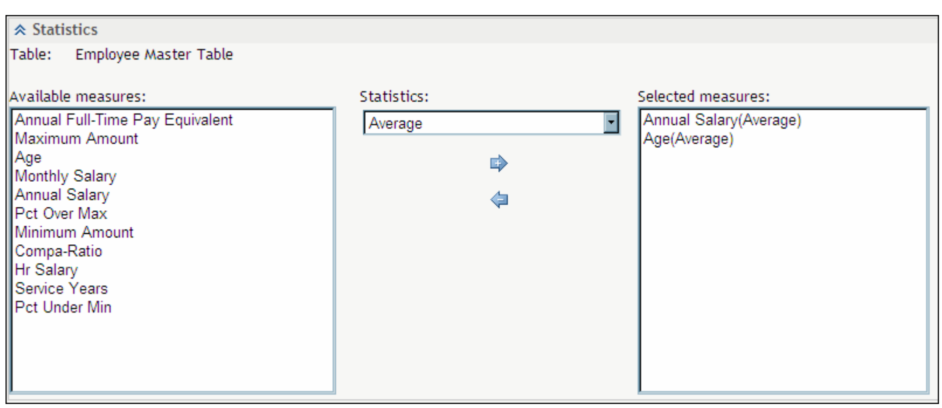
In the geographic analysis, click **Options** to modify the color range, statistics, map levels, legend, search options, and columns as follows:

1. The **Map Colors** section controls the color range for the map. The number of intervals to display is based on the population for a map. **Start color** marks the lowest headcount, and **End color** marks the highest headcount. All other intervals use colors in between. The colors and their intervals are displayed in the map legend.

   From the two color palettes, select starting and ending colors for your map.

2. In the **Statistics** section, you can select statistics to display in the data tip when the mouse pointer is over a map region.

   a. Select a measure from the **Available measures** list.

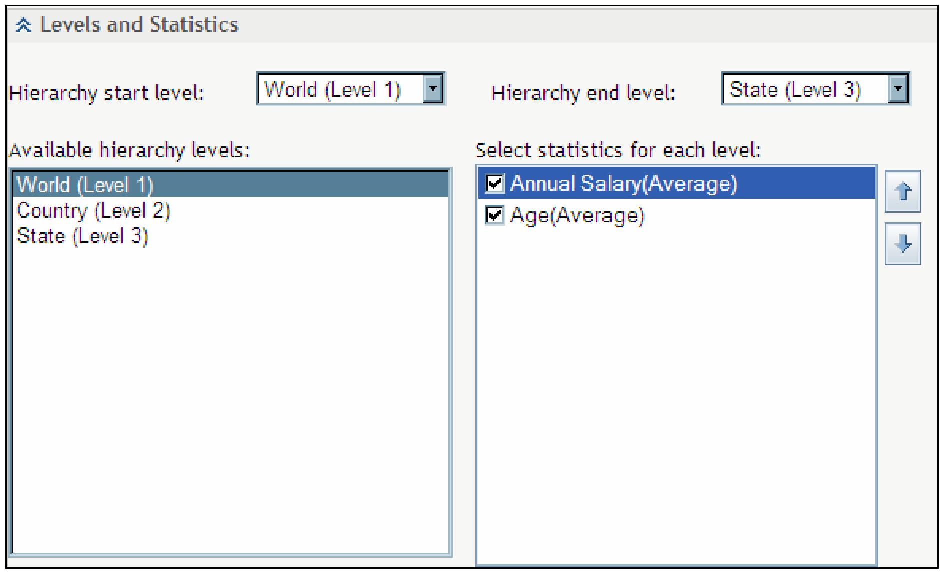
   b. From the **Statistics** drop-down list, select a function to apply to this measure.

   c. Use the right and left arrows to move columns between the **Available measures** and **Selected measures** lists.

The selected statistics appear in the data tip for a region.

Note: The employee population is always displayed in the data tip.

3. **Levels and Statistics**: The administrator determines the map level hierarchy. Typically, several levels are available (for example, world, country, and state). For each analysis, you can select the levels to display and the statistics to associate with each level.



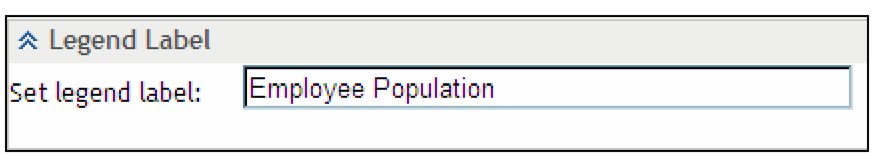
   a. To change the starting map or the number of drill-down maps available, modify the **Hierarchy start level** and **Hierarchy end level**.

      Note: You can change the **Hierarchy start level** and **Hierarchy end level** only from map view.

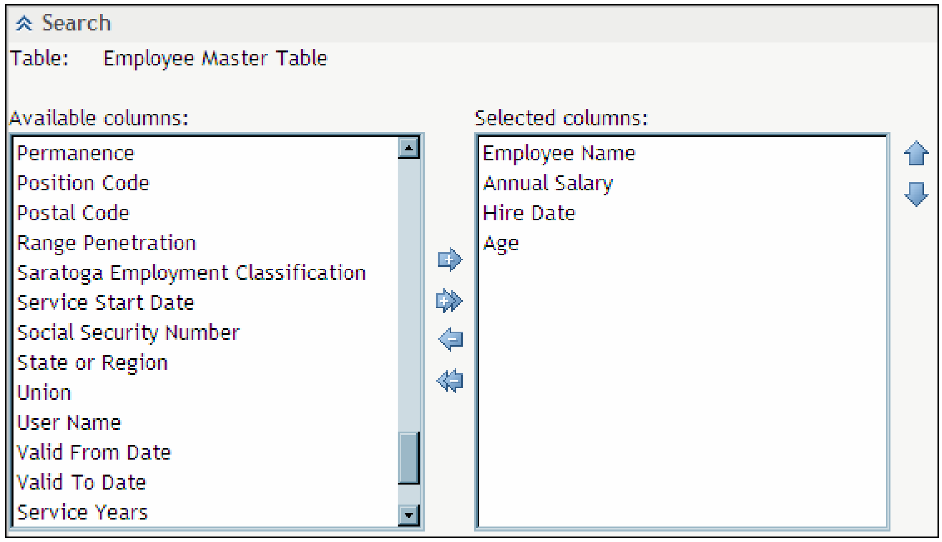
   b. For each level, select an **Available hierarchy level** and select the check boxes for the statistics you want to display at that level.

   c. To change the order in which statistics are displayed, use the up and down arrows.

4. **Legend Label**: Specify the label for the legend that appears below the map.



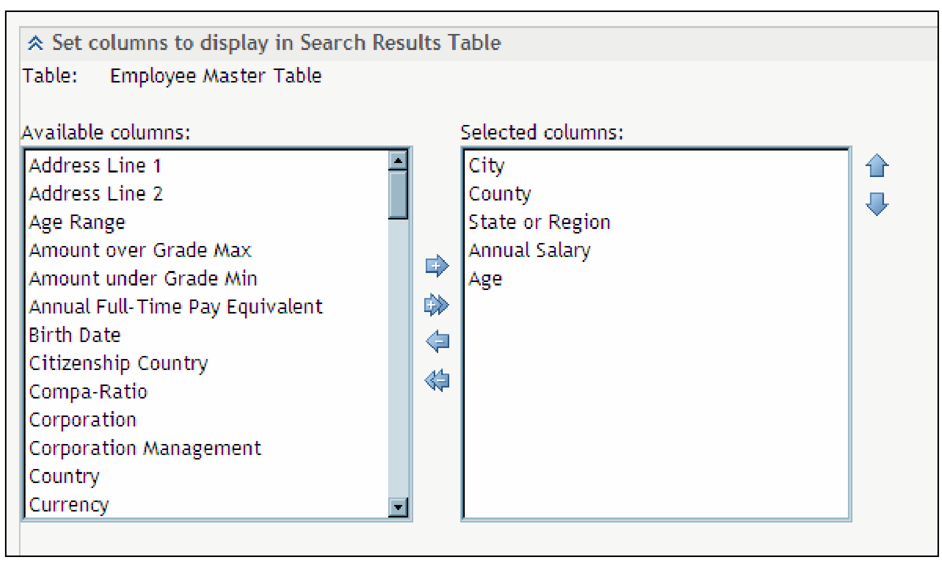
5. **Search**: Select the columns on which users can search in this analysis.



a. Use the right and left arrows to move columns between the **Available columns** and **Selected columns** lists.

b. In the **Selected columns** list, use the up and down arrows to change the order in which the columns appear.

6. **Search Results**: Select the columns to appear in table view, just as you did with the search criteria. The employee ID and employee name are always displayed, regardless of your selections.



7. Click **OK**.

Note: Search options apply only to the current analysis.

Chapter 7

Viewing the Standard Reports

About the Standard Reports

In SAS Human Capital Management, a number of standard reports are available in the workspace, under **SAS Folders** ⇨ **Products** ⇨ **SAS Human Capital Management** ⇨ **Reports**. Some of these reports might also be available in the SAS HCM Content portlet or in the **Shortcuts** list.

Actions	Name	Type	Date Modified
	Annual FTE Salary by Ethnicity and LOS.srx	SAS report	07/23/2010
	Average Annual FTE Salary by Ethnicity	Stored process	07/23/2010
	Average Annual FTE Salary by Ethnicity and Gender.srx	SAS report	07/23/2010
	Average Annual FTE Salary by Ethnicity.srx	SAS report	07/23/2010
	Average Annual FTE Salary by Gender	Stored process	07/23/2010
	Average Annual FTE Salary by Job Group	Stored process	07/23/2010
	Average Annual FTE Salary by Job Group and Gender.srx	SAS report	07/23/2010
	Average Annual FTE Salary by Job Group.srx	SAS report	07/23/2010
	Average Percent Salary Increase by Action Code	Stored process	07/23/2010
	Average Salaries for Job Groups by Gender	Stored process	07/23/2010
	Average Salary Distribution using FTE	Stored process	07/23/2010
	Salaries by Ethnicity, Gender, Years of Service	Stored process	07/23/2010
	Salary Distribution by Age	Stored process	07/23/2010
	Salary Grade Distributions	Stored process	07/23/2010
	Salary Increase Trends	Stored process	07/23/2010

To run a report, click its name. The output is filtered to show only the rows that you have permission to view. Typically, you can view data for your level of the organization and below. However, additional filtering might apply.

There are two types of standard reports:

- **stored processes.** Some of the stored processes prompt for optional parameter values. Dialog boxes that gather additional information to use in creating a report might include icons you can use to provide information. The Calendar button helps you select a date. The Search button helps you browse for information to select.

- **SAS reports.** A SAS report opens in SAS Web Report Studio. To interact with the report, you must refresh it, using the link at the top of the report. You can filter, sort, and rank the data that is shown in tables, crosstabs, and graphs. With multidimensional data, you can drill down on data in crosstabs and graphs and drill through to the underlying data. For more information about using SAS Web Report Studio, see the online Help for SAS Web Report Studio.

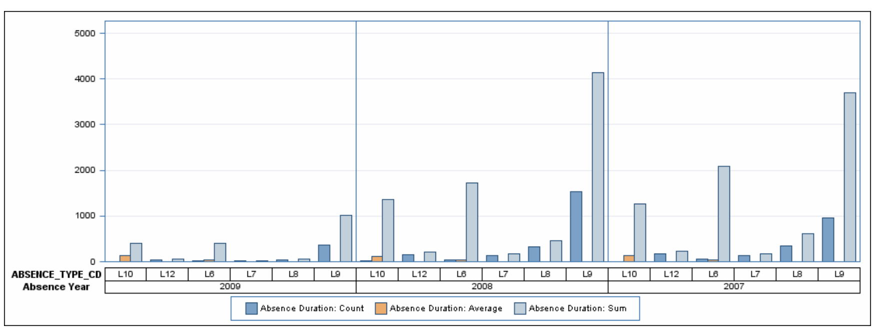
The Standard Reports

The Absence Reports

The Absence reports display table and graph output of absence duration by type, gender, year, organization, EEO class, and ethnicity.

Applied filters: None

ABSENCE_TYPE_CD	L10			L12			L6		
	Absence Duration: Sum	Absence Duration: Count	Absence Duration: Average	Absence Duration: Sum	Absence Duration: Count	Absence Duration: Average	Absence Duration: Sum	Absence Duration: Count	Absence Duration: Average
Absence Year									
2009	405	3	135	53	41	1	400	10	40
2008	1355	11	123	206	150	1	1730	47	37
2007	1270	9	141	230	167	1	2090	49	43

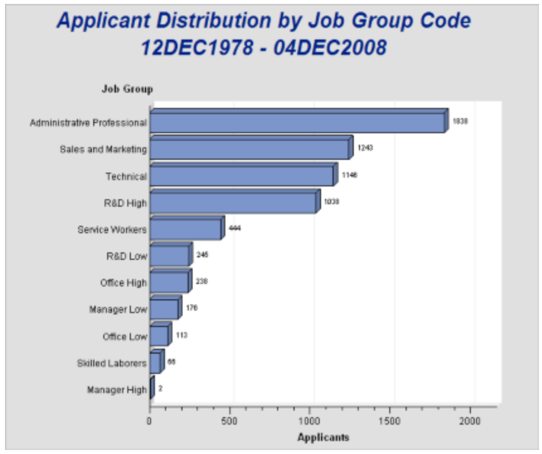


Report	Type	Description
Absence Duration by Absence Type and Gender	SAS report	A table of absence duration by type, gender, and year. A matrix of bar charts of absence duration by type, gender, and year.
Absence Duration by Absence Type and Org. Hierarchy	SAS report	A table of absence duration by type, organization, and year. A matrix of bar charts of absence duration by type, organization, and year.
Absence Duration by Absence Type	SAS report	A table of absence duration by type and year. A bar chart of absence duration by type and year.

Report	Type	Description
Absence Summary by Weekday	Stored process	A set of bar charts that show the absence count for each weekday. **Number of Years** Number of years to include in the report. Ignored if **Begin Date** is specified. Default: 3. **Begin Date** First date to begin collecting data. Default: **End Date - Number of Years**. **End Date** Last date to begin collecting data. Default: the current date. **Duration Length** If present, filters the data to include only absences of the specified length (in days). **Absence Type** If present, filters the data to include only the specified absence type. If you omit this parameter, the stored process generates a separate bar chart for each absence type.
Average Duration of Absences	Stored process	**Begin Date** First date to begin collecting data. Default: **End Date - Number of Years**. **End Date** Last date to begin collecting data. Default: the current date. **Number of Years** Number of years to include in the report. Ignored if **Begin Date** is specified. Default: 3.
Summary of Absence Duration	Stored process	A table with absence statistics by absence type, including absence occurrences, total days absent, average length of an absence type, and median length of an absence type.
Absence Trends	SAS report	A table of absence duration by type, EEO class, and ethnicity. A bar chart of absence duration by type and EEO class. A bar chart of absence duration by type and ethnicity.

The Applicant Reports

The Applicant reports show job distribution by job group code or by recruitment source.



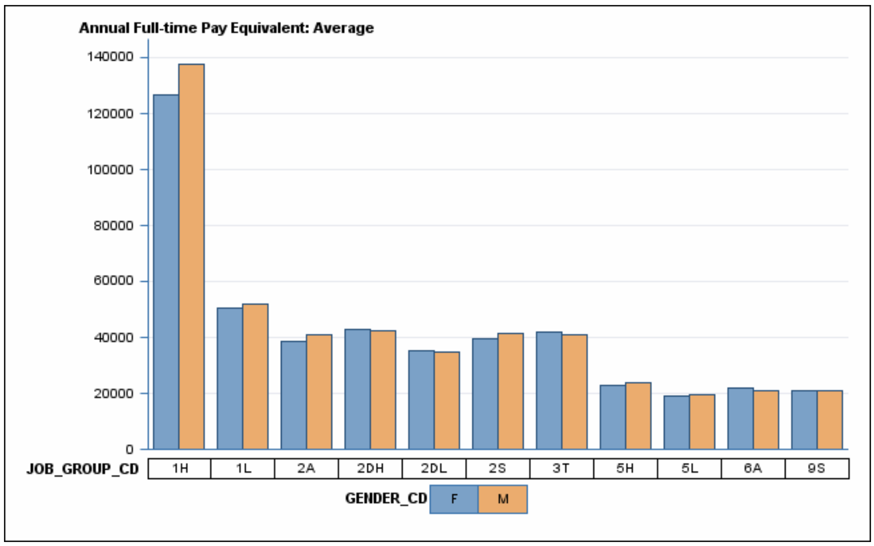
Report	Type	Description
Applicant Distribution by Job Group Code	Stored process	A graph showing the number of applicants for each job code, over a specified time period. **Number of Years** Number of years to include in the report. Ignored if **Begin Date** is specified. Default: 30. **Begin Date** First date to begin collecting data. Default: **End Date** - **Number of Years**. **End Date** Last date to begin collecting data. Default: the current date.
Applicant Distribution by Source	Stored process	A graph that shows the number of applicants for each recruitment source type, over a specified period of time. **Number of Years** Number of years to include in the report. Ignored if **Begin Date** is specified. Default: 30. **Begin Date** First date to begin collecting data. Default: **End Date** - **Number of Years**. **End Date** Last date to begin collecting data. Default: the current date.

The Compensation Reports

The Compensation reports display salary information by a variety of measures.

Applied filters: None

	JOB_GROUP_CD	1H	1L	2A	2DH	2DL	2S	3T
	GENDER_CD							
Annual Full-time Pay Equivalent: Average	F	126577	50671	38472	43045	35254	39524	41936
	M	137703	51946	40769	42278	34548	41229	40769



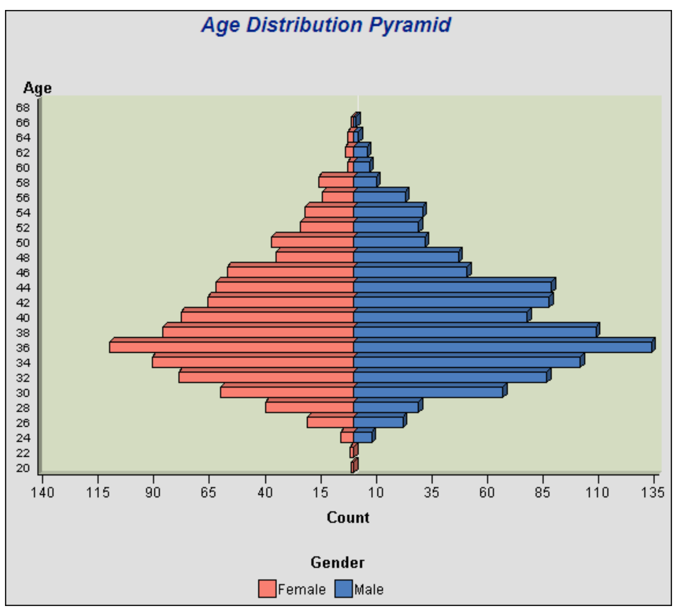
Report	Type	Description
Average Annual FTE Salary by Ethnicity	SAS report	A table of average annual FTE salary by ethnicity. A bar chart of average annual FTE salary by ethnicity.
Average Annual FTE Salary by Ethnicity	Stored process	A bar chart of average Full Time Equivalent (FTE) salaries, organized by ethnicity.
Annual FTE Salary by Ethnicity and LOS	SAS report	A table of annual FTE salary by length of service, ethnicity, and gender. A bar chart of annual FTE salary by length of service, ethnicity, and gender.
Average Annual FTE Salary by Gender	Stored process	A bar chart of average FTE salaries, organized by gender.
Average Annual FTE Salary by Ethnicity and Gender	SAS report	A table of average annual FTE salary by ethnicity, and gender. A bar chart of average annual FTE salary by ethnicity, and gender.
Average Annual FTE Salary by Job Group	SAS report	A table of average annual FTE salary by job group. A bar chart of average annual FTE salary by job group.
Average Annual FTE Salary by Job Group	Stored process	A bar chart of average FTE salaries, organized by job group.

Report	Type	Description
Average Annual FTE Salary by Job Group and Gender	SAS report	A table of average annual FTE salary by job group and gender. A bar chart of average annual FTE salary by job group and gender.
Average Percent Salary Increase by Action Code	Stored process	A bar chart that shows the percentage salary increase over the past three years, by action code.
Average Salaries for Job Groups by Gender	Stored process	A bar chart showing the average FTE salary for each job group in the organization, organized by gender.
Average Salary Distribution using FTE	Stored process	A bar chart showing the average salary distribution using FTE for each job group in the organization, organized by gender.
Salaries by Ethnicity, Gender, Years of Service	Stored process	A bar chart of total salaries for active employees. The x-axis measures total salary. The y-axis displays years of service, subdivided by ethnicity and gender.
Salary Distribution by Age	Stored process	A graph of salary distributions within a specified range of ages and salaries. **Please select a maximum age** The upper end of the age range that is included in the output. **Please enter a maximum salary value** The upper end of the salary range that is included in the output.
Salary Grade Distributions	Stored process	A table showing the salary grade distributions by job group. **Number of Years** Number of years to include in the report. Ignored if **Begin Date** is specified. Default: 3. **Begin Date** First date to begin collecting data. Default: **End Date - Number of Years**. **End Date** Last date to begin collecting data. Default: the current date. **Pay Level Code** Enter a value to restrict the output to that pay level code. Default: all pay level codes.

Report	Type	Description
Salary Increase Trends	Stored process	A set of graphs showing the percent salary change that is attributed to each action type over time. **Number of Years** Number of years to include in the report. Ignored if **Begin Date** is specified. Default: 3. **Begin Date** First date to begin collecting data. Default: **End Date - Number of Years**. **End Date** Last date to begin collecting data. Default: the current date.

The Employee Reports

The Employee reports display employee demographics and personnel information.



Report	Type	Description
Action Code by Ethnicity	Stored process	A bar chart that shows the frequency of different HR actions, organized by ethnicity.
Age Distribution Pyramid	Stored process	A graph showing the distribution of male and female employees by age.
Average Annual FTE Salary by EEO Class	Stored process	A graph showing average FTE salaries for each Equal Employment Opportunity (EEO) classification.

Report	Type	Description
EEO-1	Stored process	A table that shows employee count by EEO classification, ethnicity, and gender.
EEO-1: Job Category by Ethnicity Code and Gender Code	Stored process	A table that shows employee count by EEO classification, ethnicity, and gender.
Employee Age Distributions	Stored process	A bar chart showing number of employees for each age range.
Employee Demographics by Age and Length of Service	Stored process	A table that shows the average annual salary and employee count for an organization, grouped by age range and then by length of service.
Employee Demographics – EEO Class and Ethnicity	SAS report	A table of average annual employee salary and service years by class, gender, and ethnicity. A matrix of bar charts of average annual employee salary by EEO class, ethnicity, and gender.
Headcount Totals Across Divisions	Stored process	A pie chart of employee headcount, separated by division.
New Hires by Division and Department	Stored process	A table of employees who were hired since a specified date, along with their division and department membership. **Employees Hired Since** First hire date to include.
Number of Employees by Years of Service	Stored process	A bar chart of headcount by years of service.
Personnel Action History Analysis	SAS report	A table of personnel actions by gender and ethnicity. A graph of personnel actions by gender and ethnicity.
Service Years of Separated Employees	Stored process	A bar chart that plots years of service against the count of employees who have left the company.
Total Headcount by Division and Department	Stored process	A table that shows the number of employees for each division and department.
Workforce Percentage Above 40	Stored process	A pie chart showing the number of employees who are older than 40 (**Y**) and who are not (**N**).

The Position Reports

The position reports display open position information.

Report	Type	Description
Open Positions	Stored process	A table that lists currently open positions.

The Retirement Reports

The Retirement reports show employee eligibility for retirement and termination information, based on certain criteria that might include type, reason, year, salary, years of service, and job group.

Retirement Eligibility by Division and Department

Corporation	Division	Department	Count	Annual Salary	Service Years
U.S.	Administration	Corporate Comm.	1	$18,890.92	11.0
		Subtotal:	*1*	*$18,890.92*	*11.0*
		Human Resources	2	$39,891.92	9.5
		Subtotal:	*2*	*$39,891.92*	*9.5*
	Finance	Accounting	4	$42,626.21	9.8
		Subtotal:	*4*	*$42,626.21*	*9.8*
		Purchasing	2	$35,961.25	13.5
		Subtotal:	*2*	*$35,961.25*	*13.5*
	Sales	Central U.S. Operations	2	$45,489.61	10.5
		Subtotal:	*2*	*$45,489.61*	*10.5*
		Product Delivery	1	$16,997.45	14.0
		Subtotal:	*1*	*$16,997.45*	*14.0*

Report	Type	Description
Employees Eligible for Retirement	Stored process	A table of active employees who have at least 20 years of employment, or who are 62 or older
Retirement Eligibility by Division and Department	Stored process	A table of active employees who meet any of these three sets of conditions: • 20 or more years of service and an annual salary less than 100,000 • over age 62, with an annual salary less than 100,000 • over age 52, with at least 15 years of service and an annual salary less than 100,000

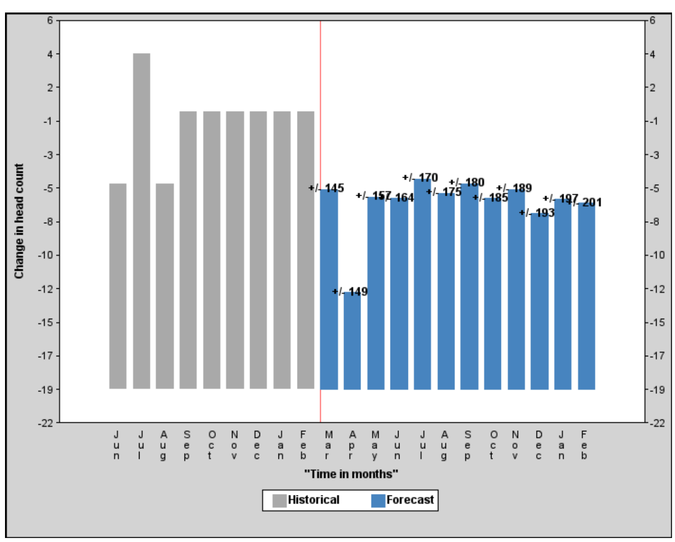
Report	Type	Description
Terminations by Time and Reason	SAS report	A table that displays terminations by type, reason, year, salary, and years of service. A bar chart that displays terminations by service years, type, and job group.

Chapter 8

Forecasting in SAS Human Capital Management

About Forecasting

The forecasting feature in SAS Human Capital Management predicts the value of a variable, based on the variable's historical value. The forecast variable represents a measure of interest to the organization, such as headcount, voluntary terminations, or involuntary terminations. You can generate a graph of the results, as in this example, which shows predicted change in headcount within a company.



To generate the data, an ETL job calls SAS forecasting procedures. The forecasting software uses sophisticated automatic model selection techniques to choose the best-fitting model for the time series. It reconciles forecasts at different levels of aggregation, so that the forecast for a division is consistent with the forecasts for the individual departments that make up that division.

To view the results, you call a stored process that generates a graph of the forecast results. The graph displays the historical and predicted value of a variable. Users can filter the results by classification variables such as job group code, EEO-1 classification, or the job's permanence (such as regular or temporary). Here are some possible uses:

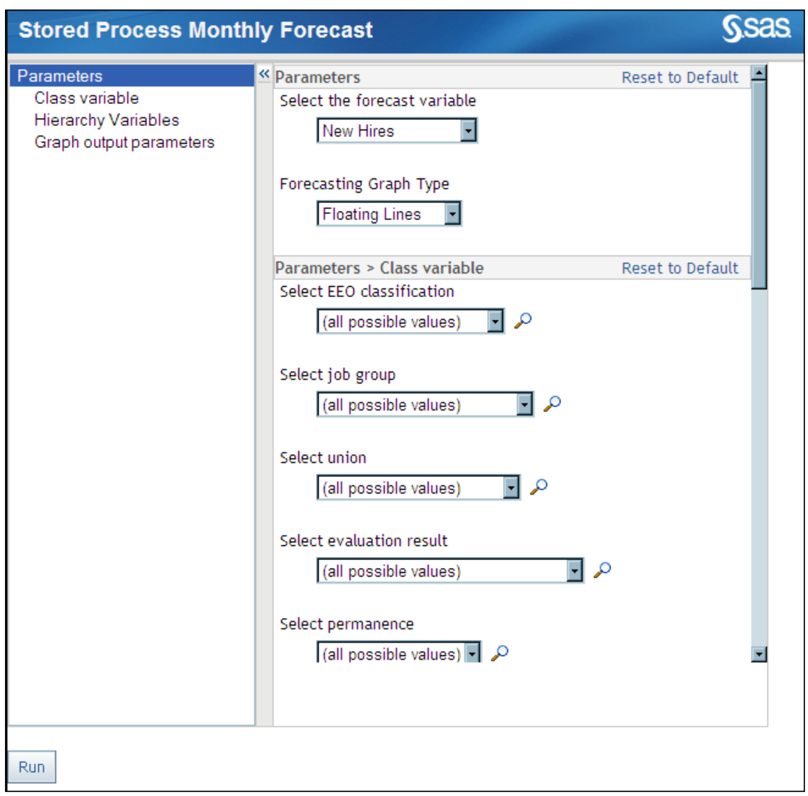
- projecting fluctuations in contract hiring over the next two years
- projecting headcount changes in a particular division
- projecting voluntary terminations (retirements and resignations) for a particular job group

A forecast does not make predictions for individual employees. It bases its predictions solely on the forecast variable's historical values, not on other variables that might contribute to its value. The more data points available, the more accurate the predictions.

Run a Forecasting Report

The forecasting reports are located in **SAS Folders** ⇨ **Products** ⇨ **SAS Human Capital Management** ⇨ **Reports** ⇨ **Forecast**.

This example illustrates possible parameters and values for a monthly forecast. To run a forecasting report, click the report name, such as **Monthly Forecast**, and then respond to the prompts.



The specific prompts and possible values are site-specific. Here are some of the possible prompts and values:

Select the forecast variable
The forecast variable is the variable whose value you want to forecast. The available variables are site-specific. Some possible selections are as follows:

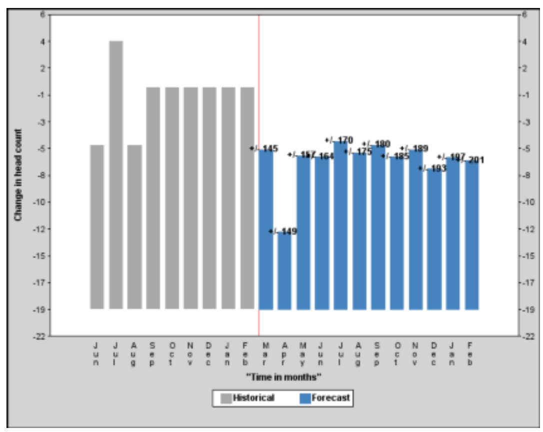
- **Total Headcount** is the projected headcount during the forecast period.
- **Voluntary Terminations** is the number of employees that are projected to leave the organization voluntarily during the forecast period.

- **Involuntary Terminations** is the number of employees that are projected to leave the organization involuntarily during the forecast period.
- **Headcount Change** is the projected change in headcount (additions or subtractions) during the forecast period.
- **New Hires** is the projected new hires during the forecast period.
- **Internal Movement** is the projected internal movement (such as employees moving to different departments) during the forecast period.

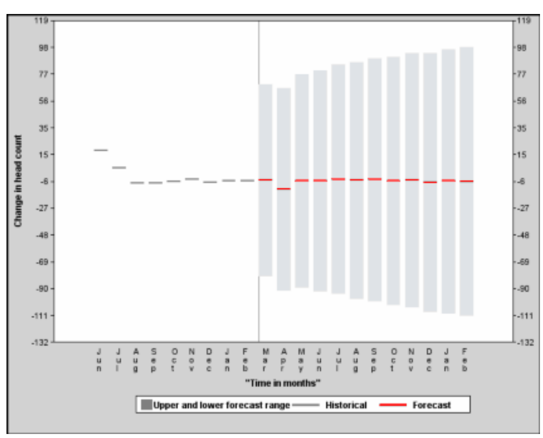
Forecasting Graph Type

The graph type parameter specifies the type of graph in which to convey the historical and projected values of the forecast variable. By default, these selections are available:

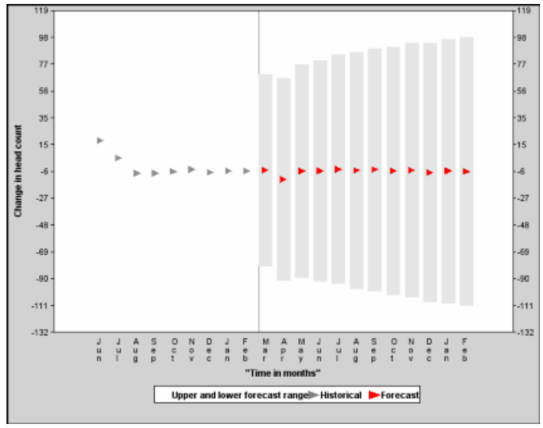
- **Vertical Bars** is a traditional histogram. Confidence intervals can be displayed on the Time axis or on top of the histogram.



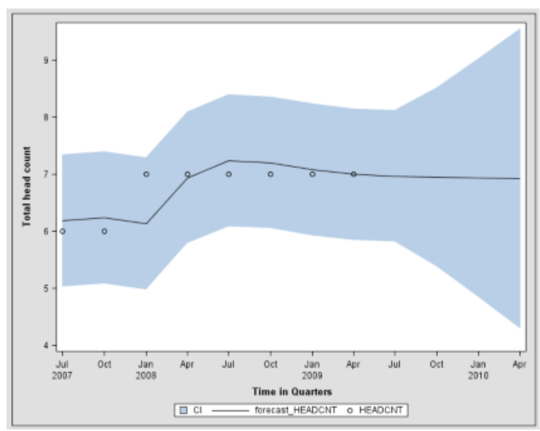
- **Floating Lines** is a modified line graph. Confidence intervals are displayed as gray bar areas above and below the forecasted line.



- **Floating Arrows** is a scatter plot that uses arrow symbols as markers.



- **Statistical Graph** is a traditional statistical graph. Confidence intervals are displayed in areas above and below the line plot.



Class Variable

These prompts enable you to limit the forecast to certain employee categories. The default variables are as follows:

- **Select EEO classification** specifies the Equal Employment Opportunity classification for an employee.
- **Select job group** specifies the job group code.
- **Select union** specifies the union membership code.
- **Select evaluation result** specifies the results of evaluations. For example, in the sample data, some possible evaluation results are **Meets Expectations**, **Often Exceeds Expectations**, and so on.
- **Select permanence** specifies a job classification in terms of permanence—for example, **Regular** or **Temporary**.

Hierarchy Variables

The hierarchy variables select the part of the organization that is included in the forecast.

- **Select the Organization management** specifies the organization management. Selection of an organization management enables the **Select the Corporation management** drop-down menu.
- **Select the Corporation management** specifies the corporation management. Selection of a corporation management enables the **Select the Division management** drop-down menu.

- **Select the Division management** specifies the division management. Selection of a division management enables the **Select the Department management** drop-down menu.
- **Select the Department management** specifies the department management. Selection of a department management enables the **Select the Group management** drop-down menu.
- **Select the Group management** specifies the group management.

Graph Output Parameters

These parameters determine the characteristics of the graph that is produced. The default parameters are as follows:

- **Confidence Interval Display Type** (Vertical Bars graphs only) specifies the way the confidence interval values are displayed on a Vertical Bars graph. It can have one of two values: **Upper and Lower Confidence interval range** or **Plus and Minus range values**.
- **Number of historical values** specifies the number of historical data points to be used in the graph. (It does not change the data points that were used in generating the forecast data.)

  A typical value is 10–15 data points. As this number gets larger, the graph might become unreadable.
- **Confidence Range Location** (Vertical Bars graphs only) specifies where the confidence range is shown on a Vertical Bars graph. It can have one of two values:
  - **Top of Confidence Interval** shows the range above the bars.
  - **On the time Axis** shows the range below the value of each data point on the Time axis.
- **Width of the graph in pixels** specifies the width of the graph by the number of pixels.
- **Height of the graph in pixels** specifies the height of the graph by the number of pixels.

Chapter 9

Displaying Key Metrics with SAS BI Dashboard

About SAS BI Dashboard

Dashboards are used for the graphical display of key metrics within an organization. The information represented in a dashboard can be quickly interpreted, often for decision-making purposes.

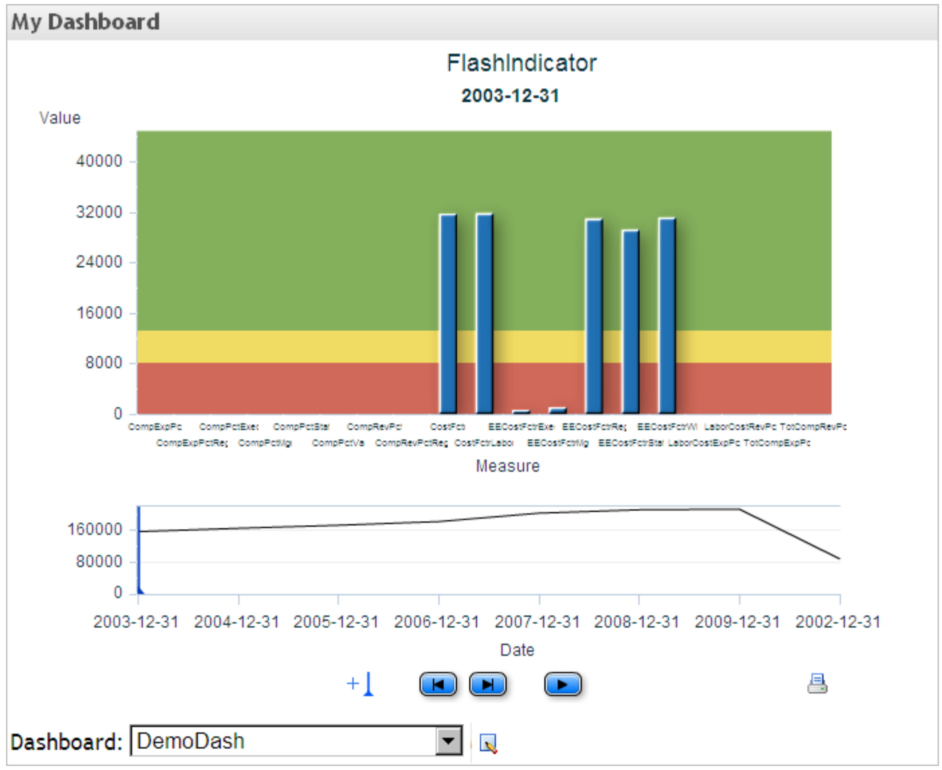
SAS BI Dashboard is an application for creating and displaying dashboards. In SAS Human Capital Management, the Home page can be configured so that users can select from available dashboards for display.

This chapter explains how you can create a dashboard using the SAS Human Capital Management data source. For more information about the SAS Human Capital Management metrics, see Appendix A1, “Metrics in SAS Human Capital Management,” on page 121. For more information about creating dashboard projects, see the online Help for the SAS BI Dashboard.

Creating a BI Dashboard Project

About Dashboards in SAS Human Capital Management

You can use metrics that are provided with SAS Human Capital Management to create a dashboard. A dashboard can display metrics in an interactive graph that uses Adobe Flash to enable users to traverse large amounts of data.



Overview of Creating a Dashboard

To create a dashboard, you define its components in this order:

1. First, create the data model, which defines the data source, such as an information map or table. SAS Human Capital Management provides an additional data source, the HCM metrics (Saratoga metrics or user-defined metrics).
2. Define the ranges, which are the intervals against which the metrics are interpreted. For example, different intervals in a range might be defined as being **On Target** or **Below Target**.
3. Create an indicator, which integrates the data model and range and defines the way the data is displayed. For example, the metrics might be displayed in a graph or as a key performance indicator (KPI). If the display includes a gauge, you can select from a wide variety of gauge types, such as a traffic light, a slider, or a dynamic speedometer.
4. Create a dashboard, which is a collection of indicators that are displayed together.

These components can be reusable. For example, you might use the same data model with several indicators for different effects. Or if the range applies to multiple data models, you can use the same range in different indicators.

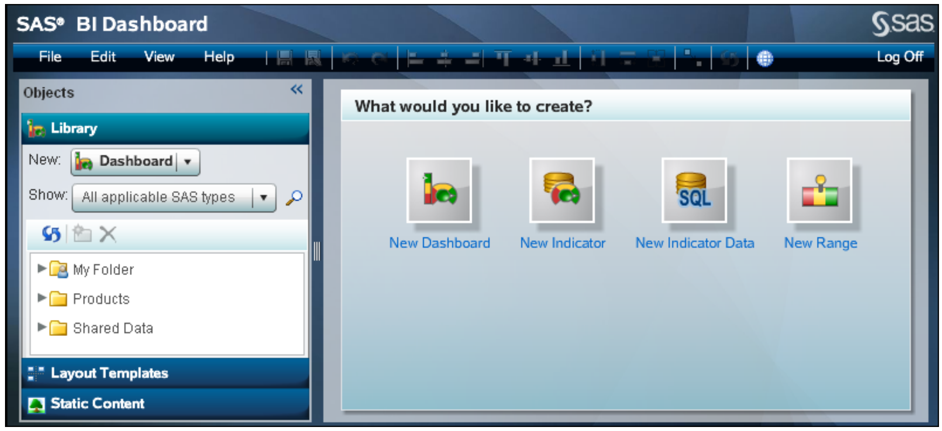
Create the Data Model

To create the data model for the example:

1. From the **Manage** list on the Home page, select **Manage Dashboards**.

   Note: This link is available if you have the appropriate permissions.

   The SAS BI Dashboard page appears.



2. Click **New Indicator Data**, or select **Indicator Data** from the **New** drop-down menu.
3. Enter a name, and then click **OK**.
4. Select **SAS Human Capital Management** from the **Data source** drop-down menu.

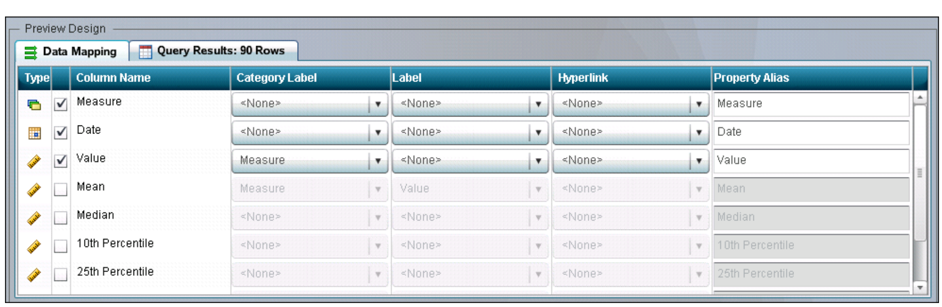
   The **Metric Server URL** is automatically populated with the Web service for the SAS Human Capital Management metrics.
5. If necessary, change the URL and click **Set Server**.
6. For the **Metric Type**, select **Saratoga**. HCM represents custom measures that are defined at the site.
7. For this example, leave the **Metric Hierarchy** empty.

   If you do not select a hierarchy, the measures are aggregated for the entire company.

   If you select a hierarchy, the dashboard displays a subset of that hierarchy, based on the user's place in the hierarchy.
8. From **Metric Category**, select **Compensation**.
9. Select the **Create with multiple dimensions** check box.

   With this option, you can subset the data by date in your dashboard. If you do not select this option, each metric is displayed separately in a single row, with a separate column for each date.
10. Select a **Start Date**, such as **2001–12–31**.
11. Select an **End Date**, such as **2009–12–31**.

    At this point you will notice that the **Preview Design** section of the page has been populated.



12. On the **Data Mapping** tab, select only the check boxes for **Measure**, **Date**, and **Value**.
13. Select **Value** from the drop-down **Category Label** menu for measure.

14. Click **Submit**.
15. Click **Save**, specify a folder to save your indicator data, and then click **Save**.

Create the Range

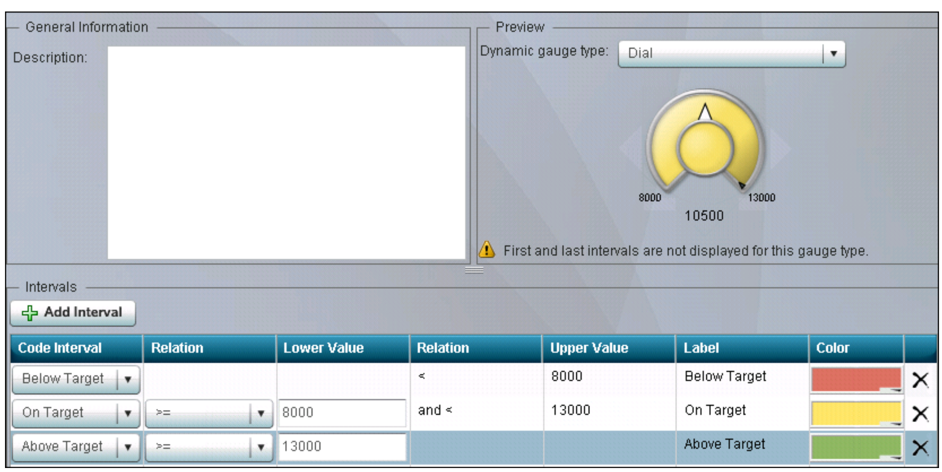
To create the range for this project:

1. Click **New Range**, or select **Range** from the **New** drop-down menu.
2. Enter a range name, and then click **OK**.
3. The range for this project will include three intervals: **Below Target**, **On Target** and **Above Target**.

   Click **Add Interval**. Type *8000* for an upper bound, and then click **OK**.

   Click **Add Interval**. Type *13000* for an upper bound, and then click **OK**.
4. Leave the first **Code Interval** selection as **Below Target** (the default).
5. Modify the second and third **Code Interval** selections to reflect **On Target** and **Above Target**, respectively.

   Notice that the label and color changes for each interval. Both the labels and the colors can be modified to suit your preferences.



6. Click **Save**, specify a folder to save your range, and then click **Save**.

Create the Indicator

To create the indicator for this project:

1. Click **New Indicator**, or select **Indicator** from the **New** drop-down menu.
2. Enter a name for the indicator.
3. From the **Display type** drop-down list, select **Interactive Summary and Bar Chart**.

   Note: There are a number of choices for displaying the metrics. After you finish creating this project, you can modify the indicator or create additional indicators to display the results in different ways.
4. Browse and select the indicator data you created.

5. Browse and select the range you created.
6. Click **OK**.
7. Select or provide values for required fields with available drop-down options.
8. Click **Save** , specify a folder to save your indicator, and then click **Save**.

Create the Dashboard

To create the dashboard:

1. Click **New Dashboard**, or select **Dashboard** from the **New** drop-down menu.
2. Provide a name for the dashboard, and then click **OK**.
3. Click **Save**, specify a folder to save your dashboard, and then click **Save**.

Viewing the Project

After you create the example project, you can view it in either of two ways:

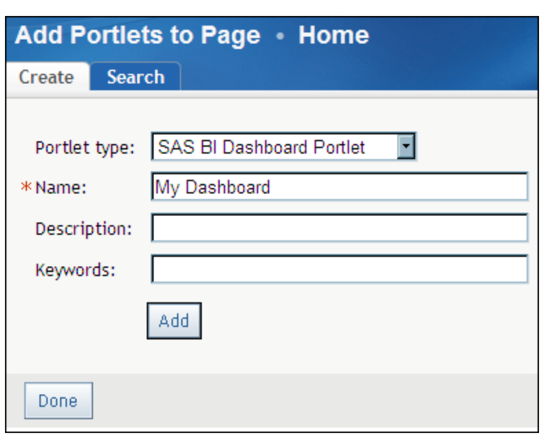
- If the Home page of SAS Human Capital Management displays dashboards, you can select the dashboard from the selector at the foot of the page.

  Note: Your administrator determines what appears on your Home page.

- From the Home page, you can also click the **My Portal** link. In the portal, you can add a dashboard portlet.

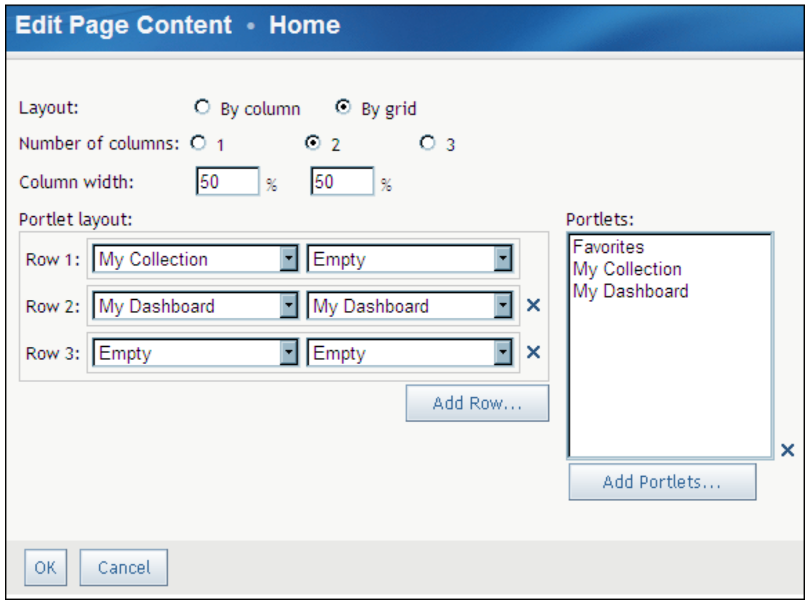
To add a SAS BI Dashboard portlet to your portal page, follow these steps:

1. On the Home page, click **My Portal**.
2. In the portal, select **Customize** ⇨ **Edit Page** ⇨ **Edit Page Content**.
3. On the Edit Page Content page, select **Add Portlets**.
4. For the **Portlet type**, select **SAS BI Dashboard Portlet**.
5. Give the portlet a name and click **Add**.



6. Click **Done**.

7. If your portal page uses a column layout, you can select the column in which your portlet should appear. If your portal page uses a grid layout, you must add the portlet to the grid. You can spread the SAS BI Dashboard portlet over multiple contiguous rows and columns, as shown here:



For details about the layout of portlets on a page, consult the online Help for the portal.

8. Click **OK**.

Chapter 10

Creating Reports with SAS Web Report Studio

Using SAS Web Report Studio

SAS Web Report Studio is a Web-based application that enables you to create, view, and organize reports. You can use SAS Web Report Studio for the following tasks:

- **Creating reports.** You can create a report that is based on relational or multidimensional data sources (tables or cubes). SAS Web Report Studio does not interact with data sources directly. Instead, you open an information map that references a data source.

  A Report Wizard simplifies the creation of reports that use an information map. In the Edit mode, you can both create and edit sophisticated reports that have multiple data sources, each of which can be filtered. Reports can include various combinations of list tables, crosstabulation tables, graphs, images, and text. Using the Edit mode, you can adjust the style to globally change colors and fonts.

- **Viewing and working with reports.** When you view a report, you can filter, sort, and rank the data that is shown in tables, crosstabulations, and graphs. With multidimensional data, you can drill down on data in crosstabulations and graphs and drill through to the underlying data.

  Note: You cannot drill down in reports that are based on cubes or tables. Only information maps built on cubes and tables can be used in conjunction with application linking.

- **Organizing reports.** You can create folders and subfolders for organizing your reports. Users can use keywords to find the reports that they need. Reports can be shared with others or kept private.

- **Printing and exporting reports.** You can preview a report in PDF and print the report, or save and e-mail it later. You have control over many printing options, including page orientation, page range, and size of the tables and graphs. You can also export data as a spreadsheet and export graphs as images.

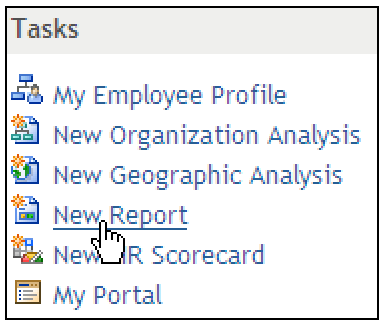
For more information about using SAS Web Report Studio, see the SAS Web Report Studio Help and the *SAS Web Report Studio: User's Guide*, both of which are available from the

Help menu. For information about administrative tasks that are associated with SAS Web Report Studio, see the *SAS Intelligence Platform: Web Application Administration Guide*, which is available at `support.sas.com`.

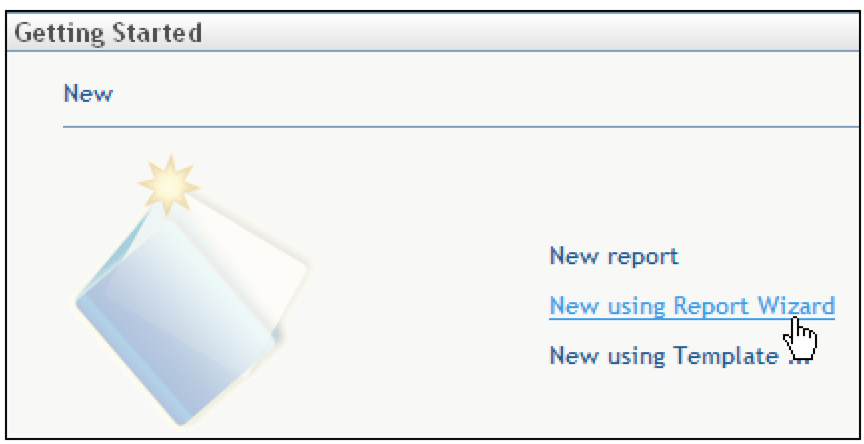
Create a Report

The following example illustrates using SAS Web Report Studio to view the Employee Master table (EMPMAST).

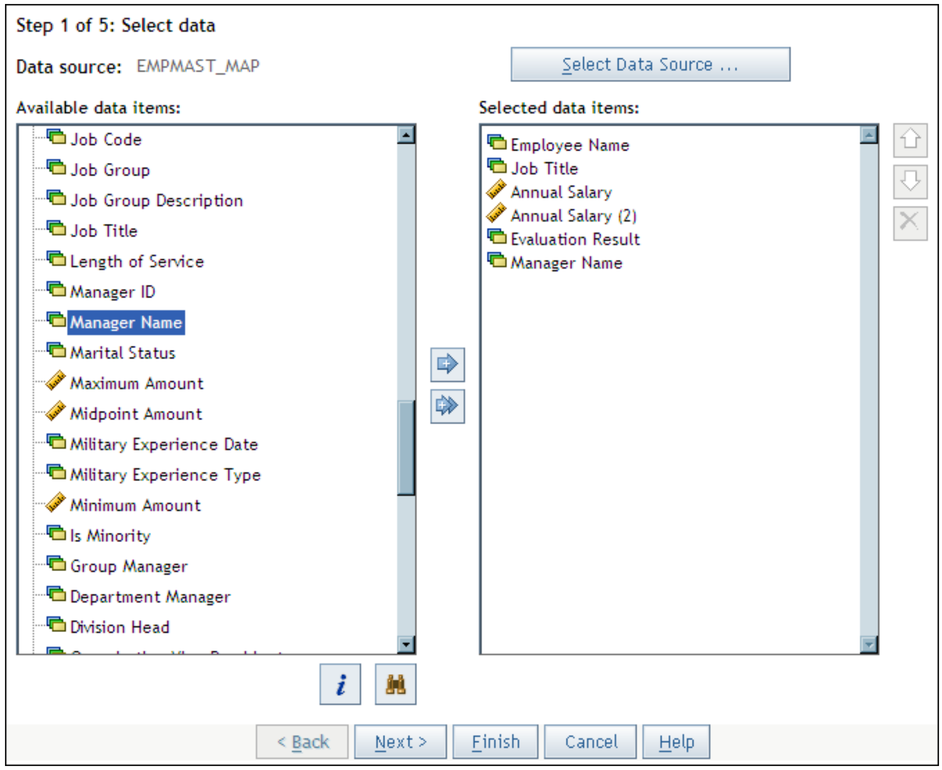
1. On the SAS Human Capital Management home page, select **New Report**.



2. From the **Getting Started** menu, select **New using Report Wizard**.



3. In Step 1 of the wizard, click **Select Data Source** and select the data source: the information map for the Employee Master table.



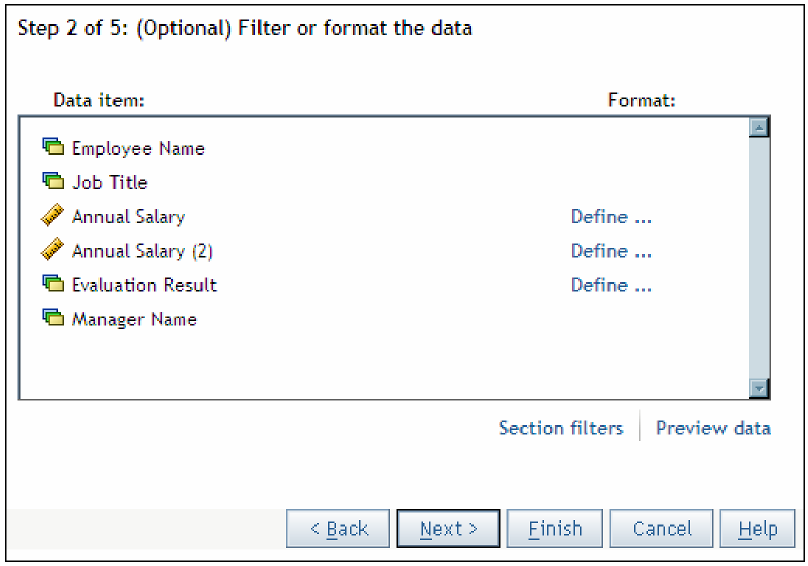
4. Select the following items to appear in the report:
   - **Employee Name**
   - **Job Title**
   - **Annual Salary**
   - **Annual Salary (2)**

     Note: Add Annual Salary twice to the report so that you can perform a different calculation on each of the two occurrences.

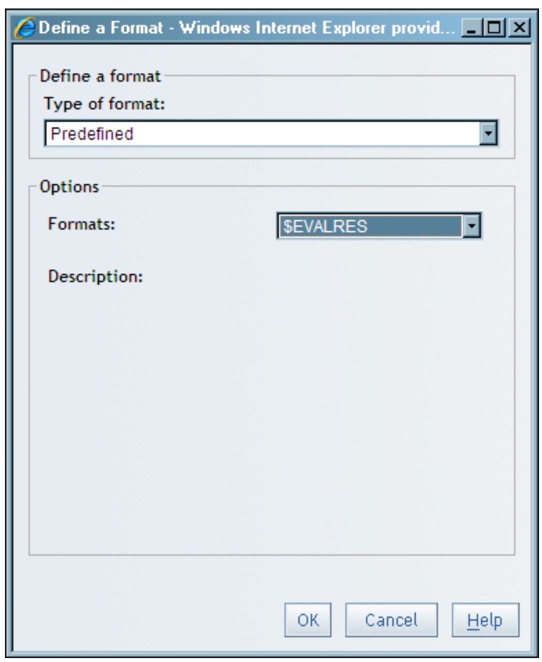
   - **Evaluation Result**
   - **Manager Name**

   Click **Next**.

5. Define the format for both Annual Salary items as a currency field with no decimal places.

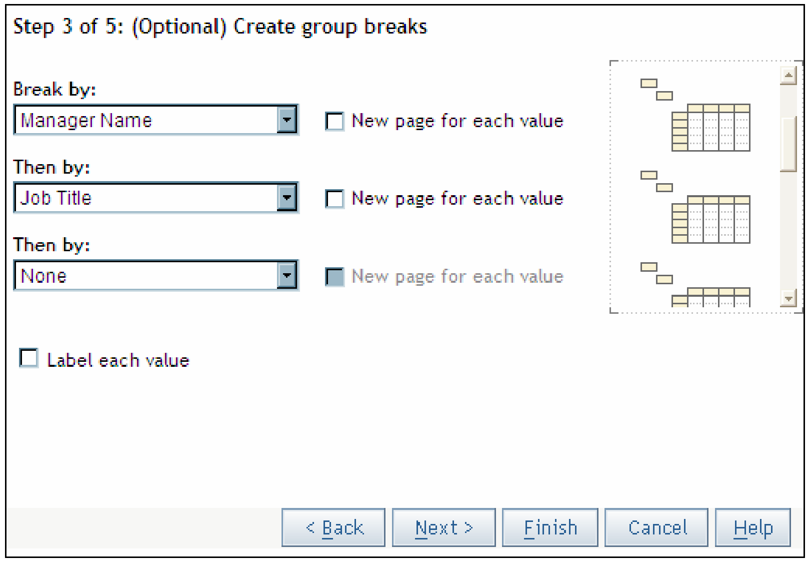


6. Select **Predefined** as the format type for **Evaluation Result**, and select **$EVALRES.** as the format.



Click **Next**.

7. Create group breaks by manager name and then by job title. Do not create a new page for each value.

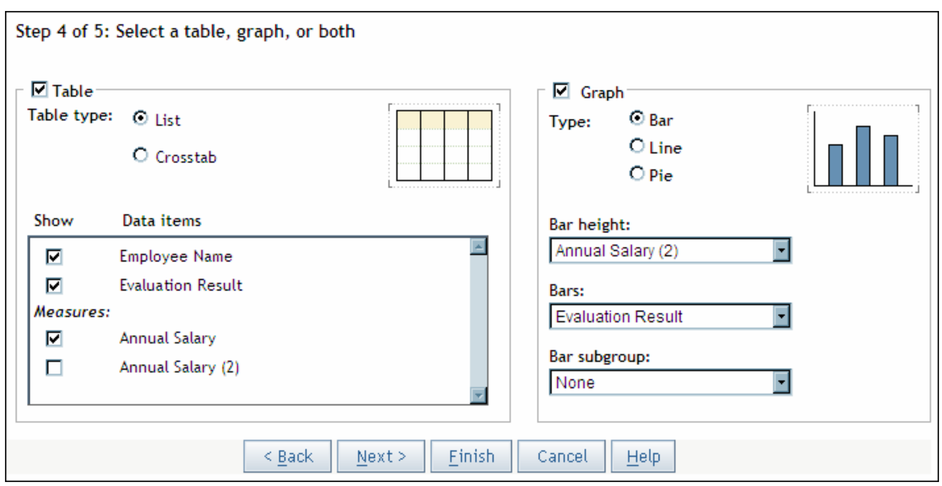


Click **Next**.

8. Select both table and graph for the output.

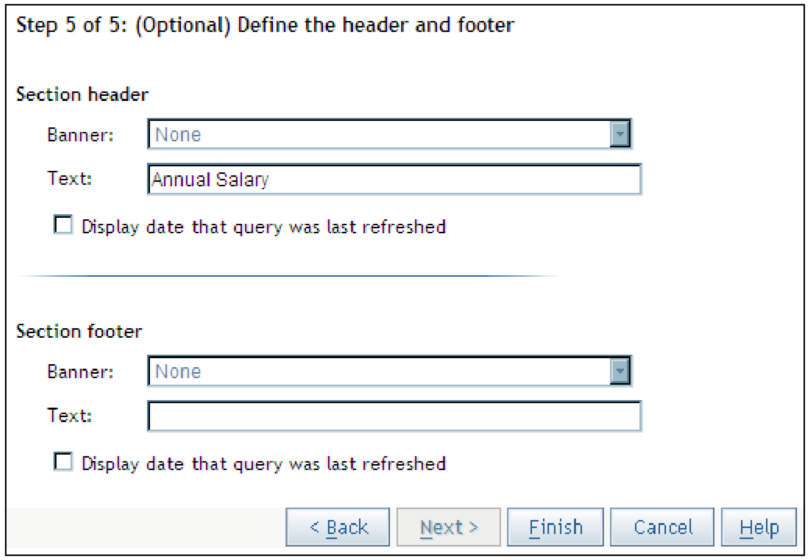
   Select all data items except **Annual Salary (2)** to display in the table.

   For the graph, select **Bar** as the graph type, **Annual Salary (2)** as the measure (**Bar height**), and **Evaluation Result** as the category (**Bars**).

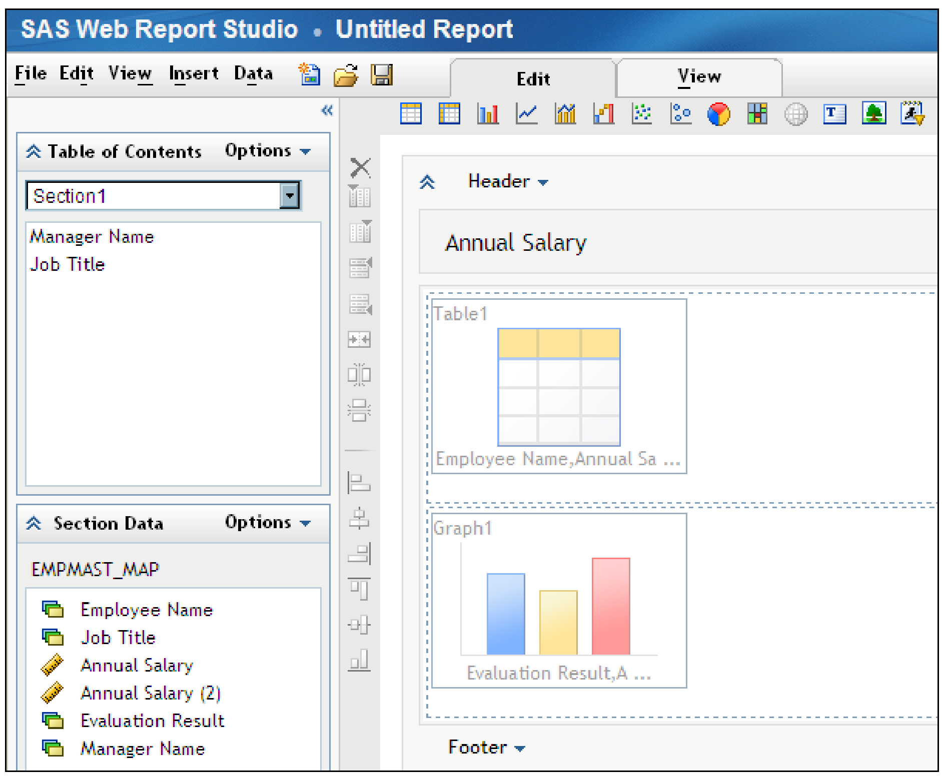


Click **Next**.

9. Define the section header text for the report as *Annual Salary*.



10. Click **Finish**. The report opens in Edit mode.



11. Save the report by selecting **File** ⇨ **Save As**.

TIP If you are creating reports that might contain confidential information, we recommend that you always choose **Data is automatically refreshed** from the **Type** drop-down list. Then when other users open your report, security is applied and the data is refreshed. Users see only the data that they are authorized to view.If you select **Data can be manually refreshed**, a static copy of the report is saved. If other users open the report, they view the same data that you viewed, regardless of their security settings. (If they try to refresh the data, security is applied.)

Edit the Sample Report

After you create the report, edit its definition as follows:

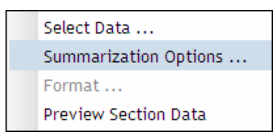
- Change the summarization options for the graph.
- Create a section filter that prompts for manager name.
- Create another filter, for the table only, that selects employees with an evaluation rating of **`Constantly Exceeds Expectations`** or **`Often Exceeds Expectations`**.

1. (Optional) Modify the summarization options.

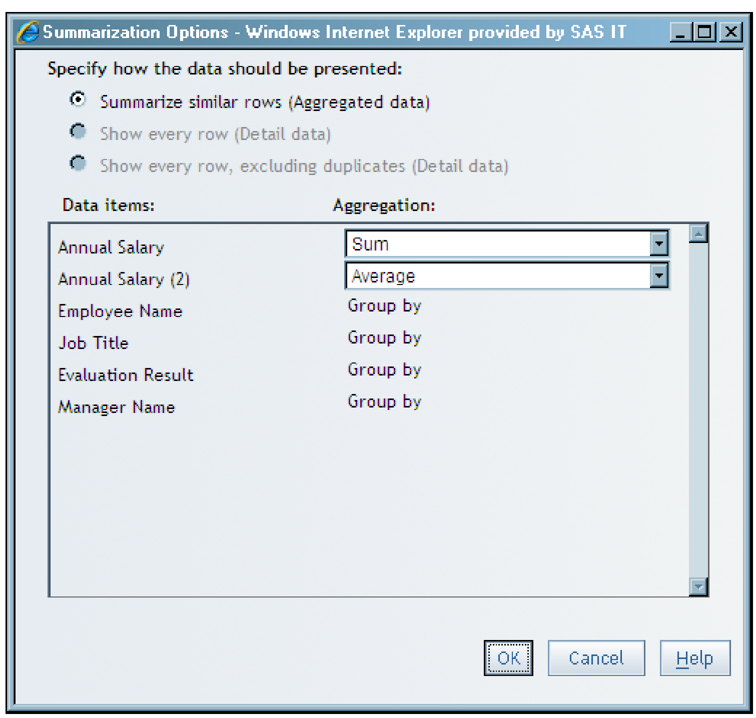
   Note: Summarization options are available only after you have defined a data source, and are available only to advanced users. Skip to step 2 if you do not have summarization options.

   By default, measures are aggregated as sums. For the graph, which will display salaries by evaluation result codes, we want to display average salary, not sums.

   a. From the **Data** menu, select **Summarization Options**.

   b. On the Summarization Options page, define the aggregation for **Annual Salary (2)** as **Average** rather than **Sum**.

   Click **OK**.

2. Add a section filter:

   a. From the **Data** menu, select **Section Filters**.

   b. In the Section Filters dialog box, click **New**.

   c. From the **Data Item** list, select **Manager Name**.

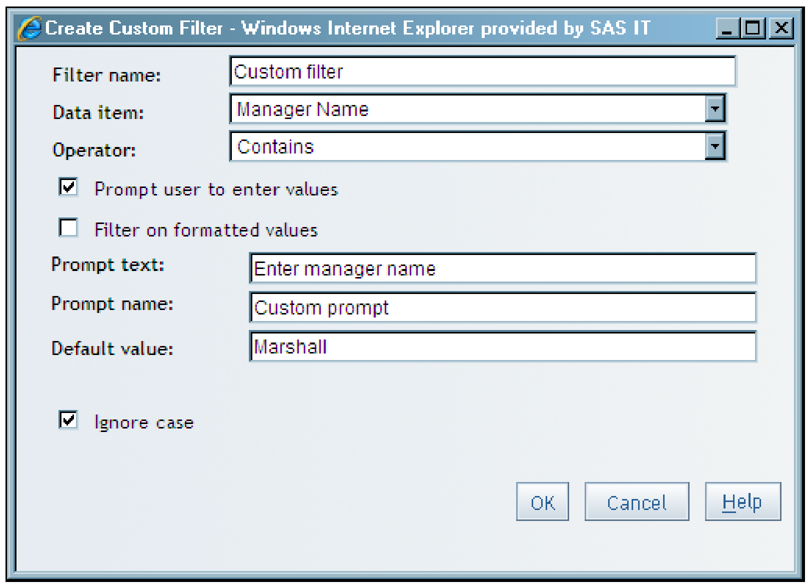
   d. Select **Contains** as the **Operator** value.

   e. Select **Prompt user to enter values**.

   f. In the **Prompt text** box, type **`Enter manager name`**.

   g. In the **Default value** box, type a name such as **`Marshall`** (assume this is the name of the CEO).

   h. Select **Ignore case**.



   i. Click **OK** and then **OK** again to exit the Section Filters dialog box.

3. Create a filter that restricts the table to certain evaluation result codes.

   Note: A section filter affects all output types (in this example, both the table and the graph). This filter will affect only the table.

   a. Right-click the table and select **Filter and Rank**.

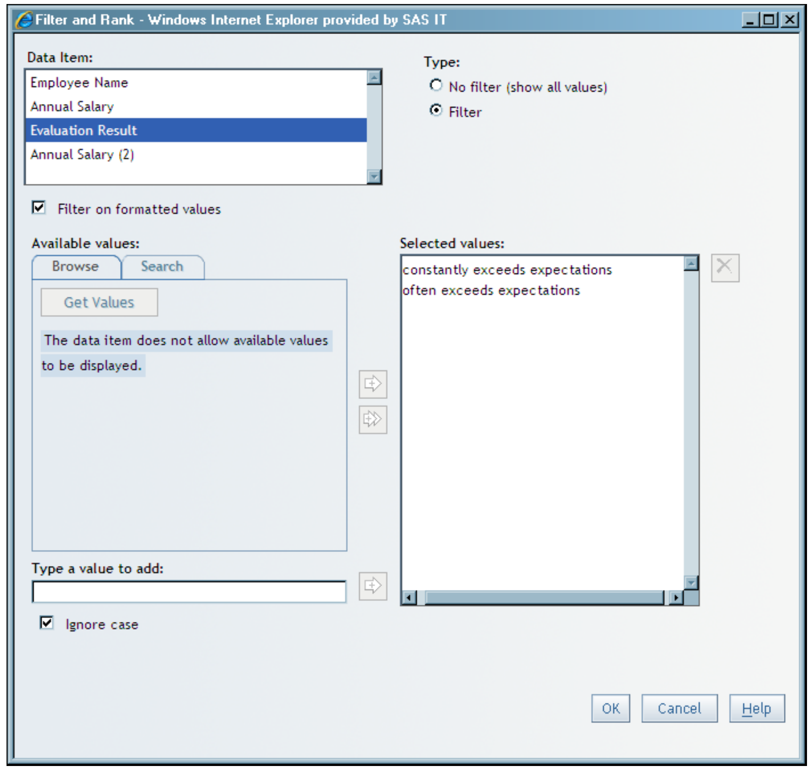
   b. In the **Data Item** list, select **Evaluation Result**.

   c. Select the **Filter** radio button.

   d. Select **Filter on formatted values**.

   e. In the **Type a value to add** box, type each of the following values and click the **Add value** button to move the value to the **Selected values** list.

      - **`constantly exceeds expectations`**
      - **`often exceeds expectations`**



f. Select **Ignore case**.

For these filters, the operator is always equals (=). You must type the entire formatted string, exactly as it is stored. However, you can specify whether the filter is case sensitive.

g. Click **OK**.

4. Save your report.

View the Sample Report

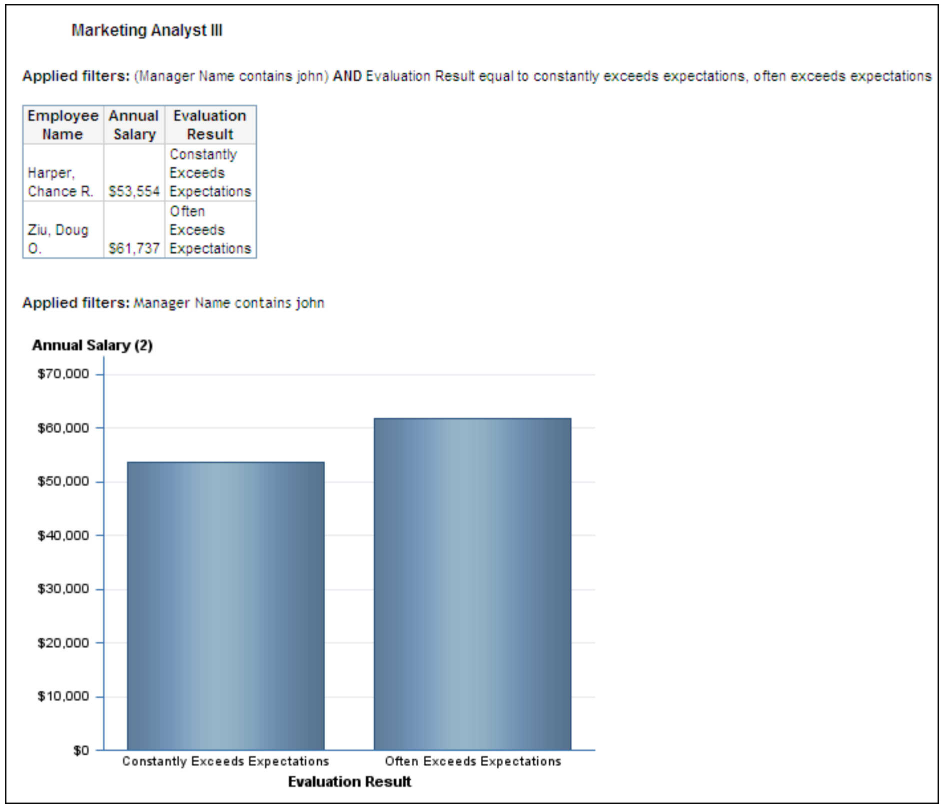
To view the sample report that you created:

1. In the workspace, select the report.

   The report opens in SAS Web Report Studio in View mode and prompts you for a manager name.

2. At the prompt, enter a manager's name, or part of a manager's name, and click **View Report**.

3. The report is displayed.



4. To select a different manager name and refresh the data, select **Data** ⇨ **Refresh Data** from the toolbar.

Chapter 11

Multidimensional Analysis

Overview of Cubes and Information Maps

A cube is a set of data that is organized and structured in a hierarchical, multidimensional arrangement. SAS cubes are designed to offer fast data access and efficient data storage. Cubes can be used as input for information maps and can be explored directly in SAS Web Report Studio.

The following table lists the pregenerated cubes, and their corresponding information maps, that are provided with SAS Human Capital Management:

Cube	Description	Information Map
ABSHCUBE	Absence History Cube	ABSHCUBE_MAP
ACTHCUBE	Action History Cube	ACTHCUBE_MAP
APPHCUBE	Applicant History Cube	APPHCUBE_MAP
EMPCUBE	Employee Master Cube	EMPCUBE_MAP
HDSMCUBE	Headcount Summary Cube	HDSMCUBE_MAP
OPOSCUBE	Open Positions Cube	OPOSCUBE_MAP
OPSMCUBE	Open Positions Summary Cube	OPSMCUBE_MAP
SALHCUBE	Salary History Cube	SALHCUBE_MAP
TERMCUBE	Terminations History Cube	TERMCUBE_MAP
TIPCUBE	Time in Position Cube	TIPCUBE_MAP

The example in this chapter uses an information map that was generated from the Absence History Cube. For more information about using SAS Web Report Studio, see the online Help.

Open and View the Data

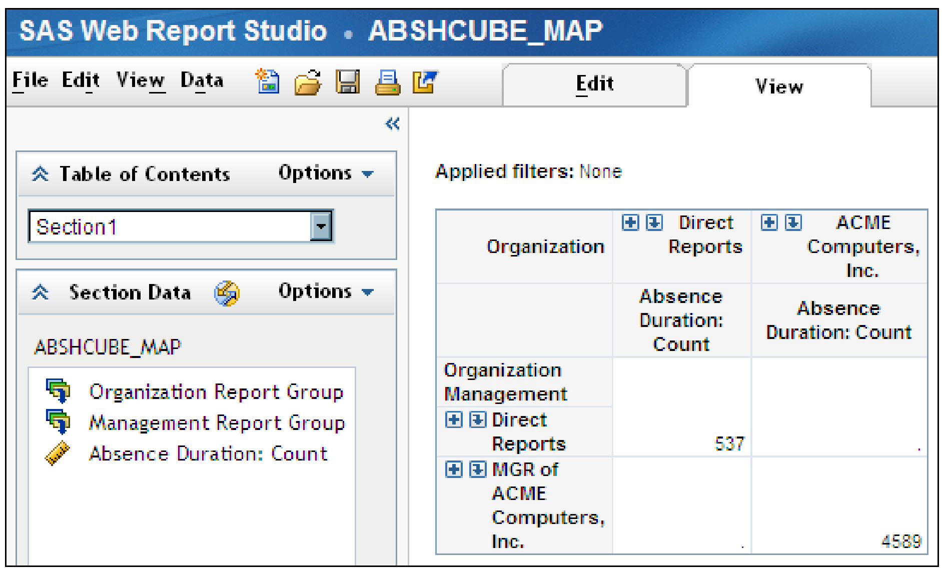
Complete these steps:

1. From the **Manage** menu on the Home page, select **Workspace**.
2. Select **SAS Folders** ⇨ **Products** ⇨ **SAS Human Capital Management** ⇨ **Data Sources** ⇨ **Information Maps**.

   Note: We recommend that you use an information map in order to share a data exploration.

3. Select **ASHCUBE_MAP**.

   The cube opens in SAS Web Report Studio with default row and column selections.



4. Select **File** ⇨ **Save As**.
5. Save the data exploration with a suitable name.

   Note: In order to share a data exploration, you should create it from an information map, and both the information map and the data exploration must be in a shared folder.

Chapter 12

Metrics and Scorecards

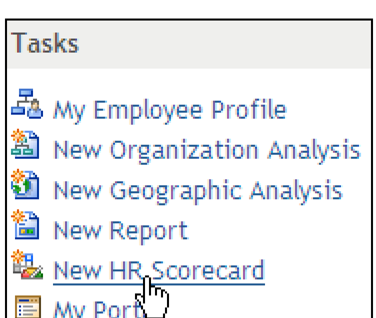
Using SAS Strategy Management

SAS Strategy Management enables you to create a scorecard to measure the performance of an organization. A scorecard highlights selected measures that enable you to tell at a glance how an organization is performing. The example in this chapter shows how to create a simple key performance indicator (KPI) scorecard using data from SAS Human Capital Management.

Create a Scorecard

To create the sample scorecard, perform the following steps:

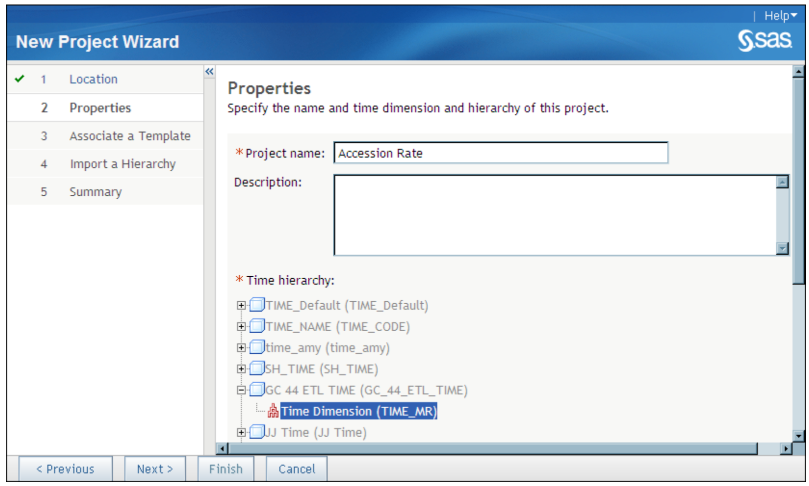
1. Select the **New HR Scorecard** task.



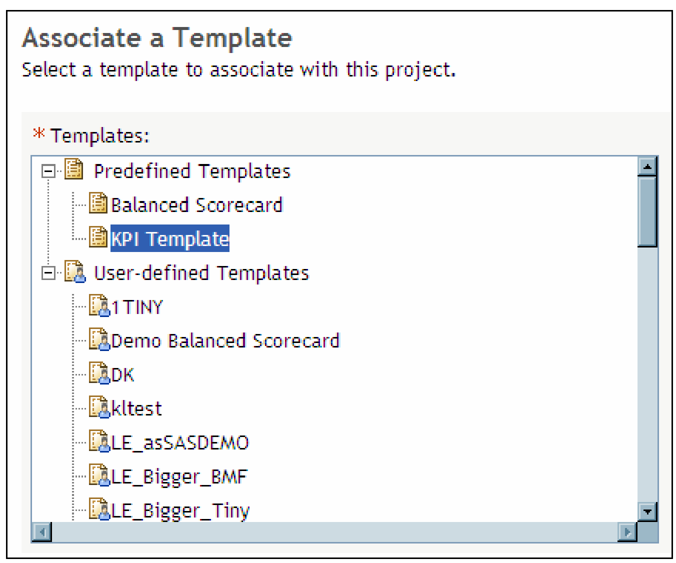
2. Select **Project** ⇨ **New Project**.

3. Specify the location to save your project, and then click **Next**.

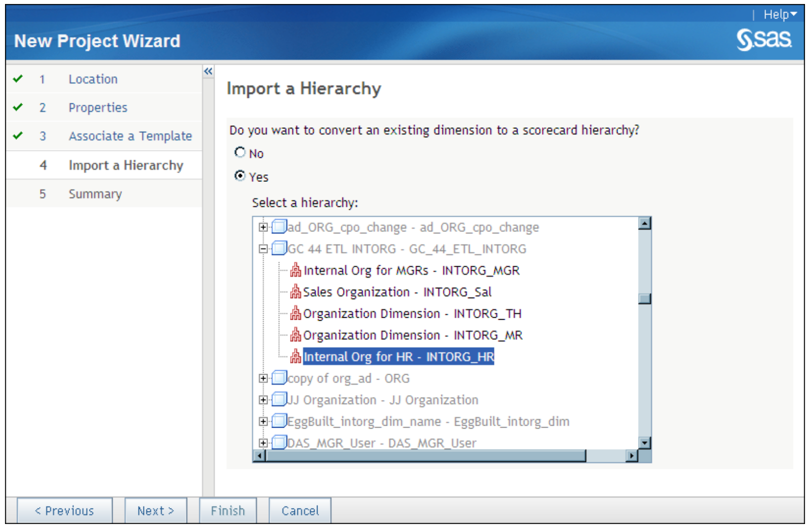
4. Assign a name to the project, specify an optional description, and select a time hierarchy. Click **Next**.



5. Select a template to associate with the project. For this project, select **KPI Template**. Click **Next**.



6. Click the **Yes** radio button to enable the Select a hierarchy view. If you want a separate scorecard for each of the different levels in your organizational hierarchy, then you must import a dimension so that the scorecard project has the necessary information about the organizational hierarchy.



If you want one scorecard for the entire organization and you do not want a separate scorecard for each level in the hierarchy, then you do not have to import a hierarchy. For this example, you will not import a hierarchy. Click the **No** radio button.

Click **Next**.

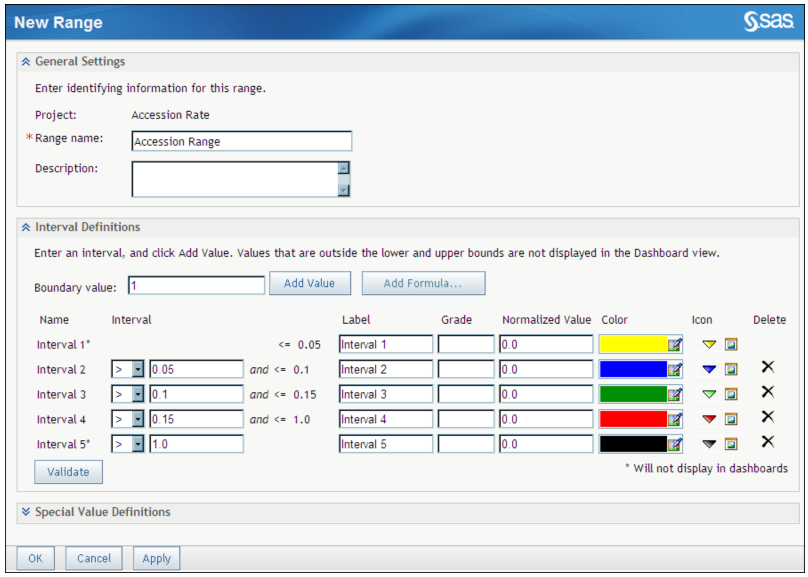
7. Click **Finish** on the Summary page.

Define a Range of Values for a Dashboard

After creating a scorecard, you can define a range of values for a dashboard. A range is a yardstick by which results are measured. It determines what color an indicator points to based on where the result falls in the range. Using a KPI template enables you to associate a dashboard display for the indicator. Each interval in the range is represented by a different color on the dial.

Complete the following steps:

1. Select **Project** ⇨ **Manage Ranges** from the scorecard toolbar.
2. Click **New Range**.
3. Name the range.
4. Expand the **Interval Definitions** section and define the contiguous intervals that make up the range. For this scenario, the KPI to be displayed is a percentage. However, since the KPI is stored as a decimal value, specify the intervals as decimals.



5. Click **Apply**. Click **OK**. Click **Close**.

Create a KPI for the Scorecard

Next you define what value is to be displayed as the key performance indicator. Complete the following steps:

1. Click **New KPI** on the scorecard toolbar.
2. Name the KPI, add an optional description, and select a period. For this KPI the period is **Year**. Click **Next**.
3. Select the type of KPI. For this scenario, select **In current scorecard and all its children**. This enables you to have a scorecard for every level of the organization. Remember that in creating the scorecard, you imported a dimension to be converted to a scorecard hierarchy so that the scorecard is aware of the organizational structure.

   Click **Next**.
4. Choose the actual value to be displayed as the KPI. The actual value of a KPI is its real or current value. Actual values can be manually created or edited, provided by a single measure, or calculated using mathematical formulas.

   For this scenario, select an existing measure by doing the following:

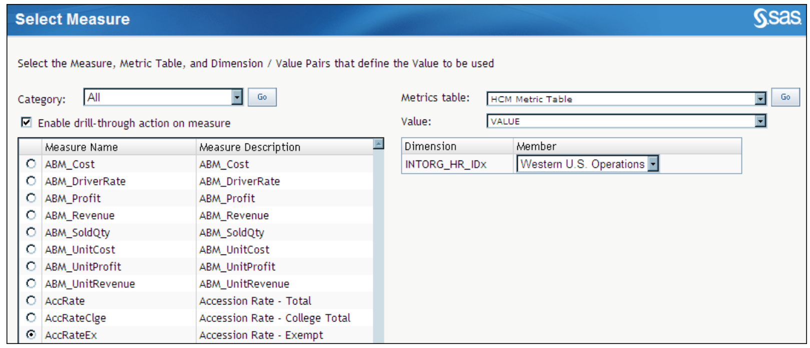
   a. Select **An existing measure** and click **Select Measure**.

   b. From the **Category** drop-down list, select a category, such as **All**. Click **Go**.

   c. Select a metrics table from the **Metrics table** drop-down list. If you imported a hierarchy, select the metric table that has been created using the same dimension hierarchy as the one that is imported by this scorecard. Click **Go**.

   d. Select the radio button for a measure you want to use.

   e. From the **Value** drop-down list, select a value to be displayed in the KPI. For more information about measures in SAS Human Capital Management, see Appendix A1, “Metrics in SAS Human Capital Management,” on page 121.



Click **OK**. Click **Next**.

5. Choose the target value to compare the KPI value to. The procedure for choosing a target value is the same as the procedure for selecting an actual value.

   SAS Human Capital Management is designed for target values to be provided by data from the Saratoga Institute and to allow you to compare actual data for your organization to data from a significant selection of other organizations. If you are using the Saratoga Institute data, change your **Value** field to something such as **MEAN_VAL** for the mean of the measure, or **P10_VAL** for the tenth percentile value.

   For this scenario, skip selecting a target value.

   Click **OK**. Click **Next**.

6. You can select a performance value to display in the scorecard.

   For this scenario, skip selecting a performance value. Click **Next**.

7. Select the range to be applied to the value. For this scenario, select the range you defined earlier.

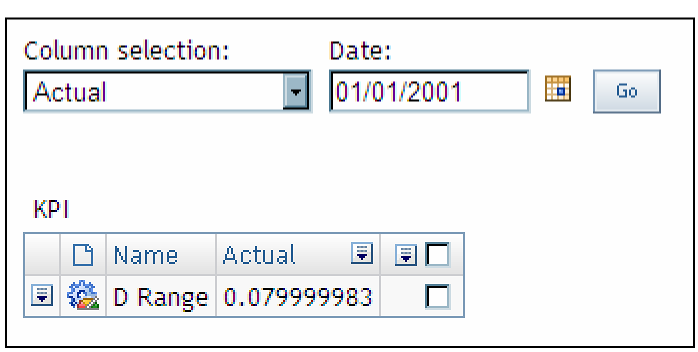
   Click **Next**.

8. Click **Finish**.

View the Data

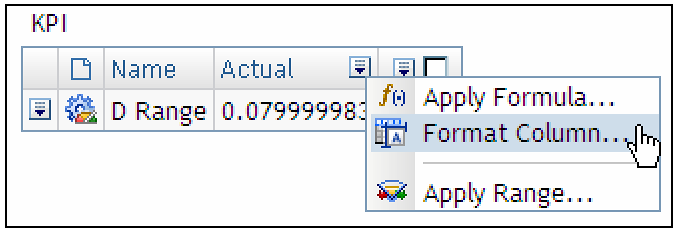
By default, the scorecard opens in tabular format.

1. Select a column to be displayed. For this scenario, select **Actual**.
2. Select a date.
3. Click **Go**. The number is displayed.

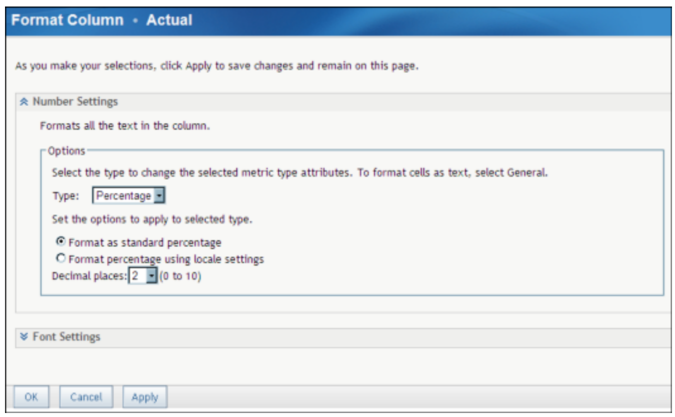


The data that is displayed is a percentage, but the number is stored as a decimal value. To display it as a percentage:

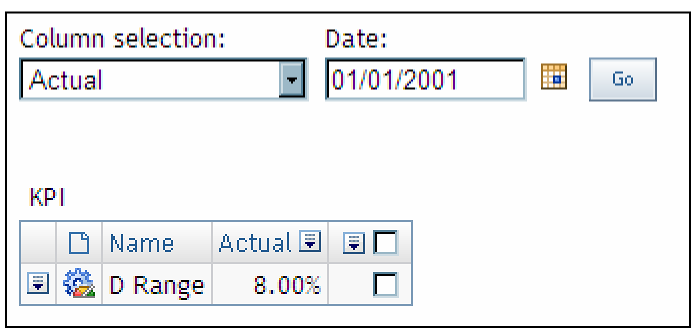
1. Click the Action button by the **Actual** column.
2. Select **Format Column**.



3. Select **Percentage** as the type of value.



4. Click **Apply**. Click **OK**.

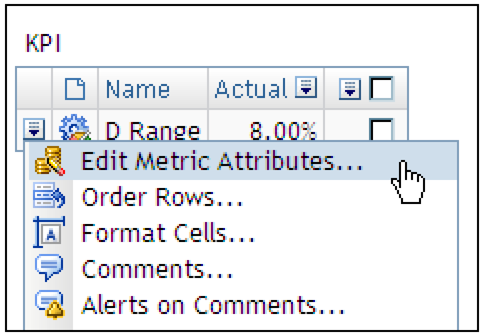


If you chose earlier to associate a KPI with every child scorecard in the project, you can click on a different level in the hierarchy to see the KPI for that level.

Link to a Document from a Scorecard

You can associate your scorecard with a document so that when a user clicks on a number in the scorecard, the associated document opens. To associate a scorecard with a document:

1. Click the Tables button to switch to tabular view.
2. Click the Action button in the first column of the KPI table.
3. Select **Edit Metric Attributes**.



The Metric Values, Ranges, and Actions window opens.

4. Select an attribute. For this scenario, select **Actual**.
5. Select a time period. For this scenario, select **YR2001**.
6. Select the **Actual Value** check box. Select a computed value option.
7. Select the **Actual Text** check box, and enter text.
8. Select the **Actual Action** check box. Select **Open a Document**.
9. Browse to the document to be opened when a KPI in the scorecard is clicked, and select a predefined report.
10. Click **OK**.

Now, when a user clicks on a KPI number, the associated document opens.

Link to a Scorecard from an Organization Analysis

You can also associate a scorecard with an organization analysis so that clicking on the organization analysis opens the associated scorecard.

For instructions on associating a scorecard with an organization analysis, see “Organization Analysis” on page 49 .

Create a KPI Portlet

Having created a KPI, it is convenient to create a KPI portlet that you can add to the portal (for example, on your Home page) so that you can view the KPI without having to open either SAS Human Capital Management or SAS Strategy Management.

To create a KPI portlet:

1. Select **Manage Strategy Management Scorecard Projects and Templates** from a portlet.

   Note: If your Favorites portlet does not have the **Manage Strategy Management Scorecard Projects and Templates** option, then choose **Edit Portlet** ⇨ **Add** ⇨ **Task** to add it.

2. Select a KPI project.
3. Click the **Add to Portlet** button. The Add to Portlet window opens.

4. Name the portlet and select the page to which to add it (for example, on your Home Page). Click **OK**.

5. After the portlet has been added, you can click **Edit Portlet** to change its properties.

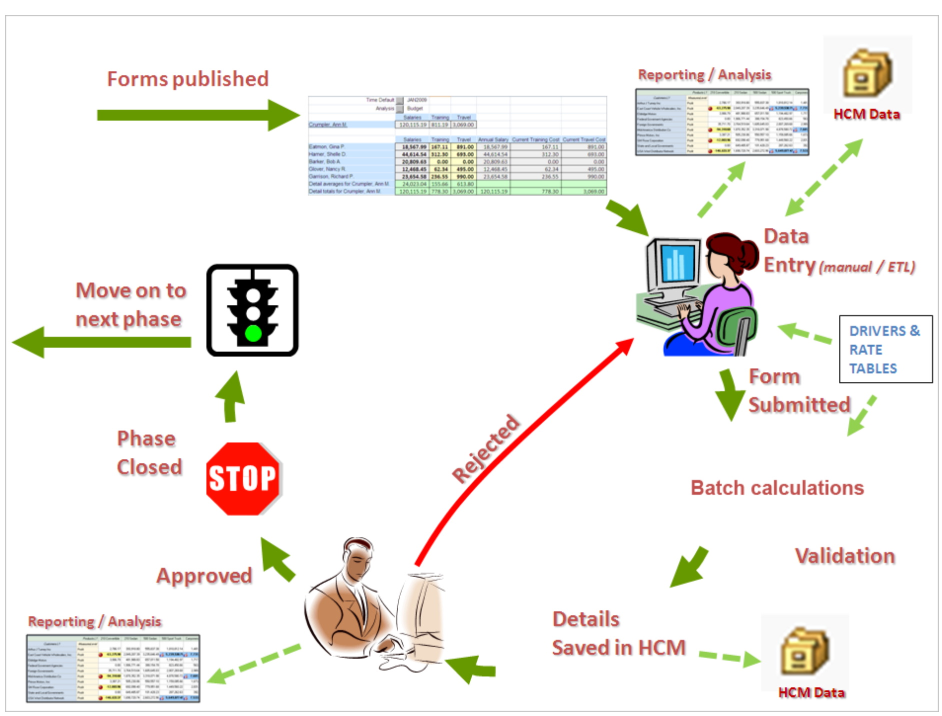
Chapter 13

Participating in the Budgeting Process

Overview of SAS for Workforce Planning & Budgeting

Planning and budgeting for salary and headcount is a complex process that benefits from the integration of functionality and data between SAS Human Capital Management (HCM) and SAS Financial Management (FM). With SAS for Workforce Planning & Budgeting, HCM data is made available to the SAS Financial Management budgeting workflow. During the budgeting process, line of business managers participate in the structured workflow, as shown in this simplified diagram:

Figure 13.1 *Budgeting Workflow*



In a data-entry form, users have access to data from SAS Human Capital Management tables. This data, which is displayed in additional tables (supplemental schedules), might include details such as salary, bonus, travel expenses, and evaluations for each employee.

Note: A supplemental schedule, like a data-entry form, displays only data that the user is authorized to view.

In bottom-up workflows, data from the supplemental schedules is rolled up to the data-entry form and stored in SAS Financial Management.

Working with Supplemental Schedules

A data-entry form with supplemental schedules might resemble the following image, which shows only part of a form. At the top is the data-entry table, representing values that are stored in SAS Financial Management. Below it are parts of two supplemental schedules, representing SAS Human Capital Management values. For each supplemental schedule, a different slicer value has been selected.

Analysis	ACTUAL										
Organization	Internal Comm										
	JAN2009	FEB2009	MAR2009	APR2009	MAY2009	JUN2009	JUL2009	AUG2009	SEP2009	OCT2009	NOV2009
YearlyCompensation	22,769.63	22,723.89	22,694.18	22,670.74	22,677.57	22,857.84	22,971.84	23,267.44	23,533.33	23,533.33	23,533.33
Commission	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Salary	22,459.52	22,505.10	22,537.70	22,560.64	22,580.80	22,628.56	22,687.75	22,787.70	22,916.25	22,916.25	22,916.25
Bonus	310.12	218.80	156.48	110.10	96.77	229.28	284.09	479.75	617.08	617.08	617.08
Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medical	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Life Insurance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Head Count	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Analysis	ACTUAL										
SupplementalAcctDim	Salary										
	Hire Date	Current Annual Salary	Salary Inc. Effective Date	Evaluation Results	Raise Percent	Future Annual Salary	JAN2009	FEB2009	MAR2009	APR2009	MAY2009
Gearino, Dan S.	5/28/2001	25,842.94	1/1/2009	4.00	3.00	26,618.23	2,218.19	2,218.19	2,218.19	2,218.19	2,218.19
Kuo, Pauline D.	10/24/1997	24,310.56	2/1/2009	3.00	2.25	24,857.54	2,025.88	2,071.46	2,071.46	2,071.46	2,071.46
Godley, Lucille J.	6/15/2008	26,079.60	3/1/2009	2.00	1.50	26,470.80	2,173.30	2,173.30	2,205.90	2,205.90	2,205.90
Ross, John B.	7/23/2004	36,699.95	4/1/2009	1.00	0.75	36,975.19	3,058.33	3,058.33	3,058.33	3,081.27	3,081.27
Loflin, Angela B.	10/7/1996	21,504.18	5/1/2009	1.50	1.13	21,746.10	1,792.01	1,792.01	1,792.01	1,792.01	1,812.18
Holt, Dennis K.	4/4/2005	30,570.67	6/1/2009	2.50	1.88	31,143.87	2,547.56	2,547.56	2,547.56	2,547.56	2,547.56
Muzzy, Angela N.	1/12/2007	27,055.98	7/1/2009	3.50	2.63	27,766.20	2,254.67	2,254.67	2,254.67	2,254.67	2,254.67
Cooper, Nellie C.	9/30/2002	35,536.70	8/1/2009	4.50	3.38	36,736.06	2,961.39	2,961.39	2,961.39	2,961.39	2,961.39
Quinn, Rita M.	9/6/1998	41,138.34	9/1/2009	5.00	3.75	42,681.03	3,428.20	3,428.20	3,428.20	3,428.20	3,428.20
Detail averages for Internal Comm						30,555.00	2,495.50	2,500.57	2,504.19	2,506.74	2,508.98
Detail totals for Internal Comm		268,738.92					22,459.52	22,505.10	22,537.70	22,560.64	22,580.80

Analysis	ACTUAL										
SupplementalAcctDim	Bonus										
	Current Annual Salary	Bonus Date	Evaluation Results	Bonus	JAN2009	FEB2009	MAR2009	APR2009	MAY2009	JUN2009	JUL2009
Gearino, Dan S.	25,842.94	1/15/2009	4.00	310.12	310.12	0.00	0.00	0.00	0.00	0.00	0.00
Kuo, Pauline D.	24,310.56	2/15/2009	3.00	218.80	0.00	218.80	0.00	0.00	0.00	0.00	0.00
Godley, Lucille J.	26,079.60	3/15/2009	2.00	156.48	0.00	0.00	156.48	0.00	0.00	0.00	0.00

As a participant in the budgeting process, if you open a data-entry form in Microsoft Excel, you can use the standard features of the SAS Financial Management Add-In for Microsoft Excel. The following additional features are available as part of SAS for Workforce Planning & Budgeting. (Some features are available only with bottom-up workflows.)

- The form might contain one or more supplemental schedules that are associated with SAS Human Capital Management. Some values in a supplemental schedule might come from an HCM table and some values might be generated when you create a new position. Some columns might require you to type in a value.
- Within a supplemental schedule, you can create additional rows to represent new positions in the budgeting process. You can create multiple (identical) positions at a time. They need not represent actual employees.
- If there are additional management levels below yours, you can drill down to lower levels. As you click a manager's name in the data-entry table, the employee list in the supplemental schedule is replaced by a list of employees for that manager, so that you can review that manager's information in detail. However, when you drill down in a form, the cells are not writeable. You can update the cells only for your direct reports.
- If a supplemental schedule contains slicers, you can select a different slicer value and any measures that depend on the slicer will display values that correspond to the new selection. For example, if a slicer included members of the Account dimension, selecting a different account might cause values for that account to be displayed.

Note: For SAS Human Capital Management, most measures are slicer-independent: their values do not change value when the slicer changes. (There are exceptions for new positions and for measures that are not based on the HCM tables.)

- When you finish entering data, you select **Save All Supplemental Data** from the **SAS Solutions** menu .

  For each of the FM accounts in the supplemental schedules, the totals are rolled up to the data-entry table, and the supplemental schedules are saved.

  Note: The standard HCM tables provide input data for the supplemental schedules, but are not updated themselves.

For more information about using supplemental schedules in a data-entry form, see the online Help for the SAS Financial Management Add-In for Microsoft Excel.

Appendix 1

Metrics in SAS Human Capital Management

Introduction

SAS Human Capital Management provides an extensive collection of predefined measures that are designed to be used with data provided by the Saratoga Institute.

Note: An administrator must have set up the data to use with these measures by running a job that loads the metric tables. Having the measures does not imply that you have the data.

The measures are available in the following categories:

- Organizational Effectiveness
- Human Resources Structure
- Compensation
- Benefits
- Separations
- Staffing
- Training and Development

Organizational Effectiveness

Table A1.1 *Organizational Effectiveness Measures*

Name	Description	Formula
Revenue Factor - Total	Dollars of unit revenue generated per total FTE	Revenue / Total FTE
Revenue Factor - Workforce Employees	Dollars of unit revenue generated per workforce on payroll FTE	Revenue / Workforce on Payroll FTE
Revenue Factor - Regular Employees	Dollars of unit revenue generated per all regular FTE employees	Revenue / Regular FTE
Expense Factor - Total	Dollars of unit operating expense incurred per total FTE	Operating Expense / Total FTE
Expense Factor - Workforce Employees	Dollars of unit operating expense incurred per workforce on payroll FTE	Operating Expense / Workforce on Payroll FTE
Expense Factor - Regular Employees	Dollars of unit operating expense incurred per all regular FTE employees	Operating Expense / Regular FTE
Income Factor - Total	Dollars of unit profit generated per total FTE	(Revenue - Operating Expense) / Total FTE
Income Factor - Workforce Employees	Dollars of unit profit generated per workforce on payroll FTE	(Revenue - Operating Expense) / Workforce on Payroll FTE
Income Factor - Regular Employees	Dollars of unit profit generated per all regular FTE employees	(Revenue - Operating Expense) / Regular FTE
Human Capital Value Added	Dollars of adjusted profit added per total FTE	(Revenue - (Operating Expense - (Compensation Cost (Workforce on Payroll) + Benefit Cost EPTNW))) / Total FTE
Human Capital ROI	Dollars of adjusted profit per each dollar spent on employee compensation and benefits	(Revenue - (Operating Expense - (Compensation Cost (Workforce on Payroll) + Benefit Cost EPTNW))) / (Compensation Cost (Workforce on Payroll) + Benefit Cost EPTNW)
Human Economic Value Added	Dollars of true profit (after expenses, taxes and capital costs) generated per total FTE	Net Operating Profit After Tax - (Shareholder's Equity * 0.12) / Total FTE

Name	Description	Formula
Outsourcing Expense Percent	Outsourcing costs as a percentage of total operating costs	Outsourcing Expense / Operating Expense
Management Ratio - Total	Average number of employees to each manager	Total Headcount / Management Headcount
Management Ratio - Regular Employees	Average number of regular employees to each manager	Regular Headcount / Management Headcount
Management Investment Factor - Total	Average dollars spent on managers per total FTE	Management Compensation Cost / Total FTE
Management Investment Factor - Regular Employees	Average dollars spent on managers per all regular FTE employees	Management Compensation Cost / Regular FTE
Average Tenure - Total	Average length of service of all active regular employees	Total Employee Tenure / Regular Employee Headcount
Average Tenure - Exempt	Average length of service of all active, exempt, regular employees	Exempt Employee Tenure / Exempt Regular Headcount
Average Tenure - Nonexempt	Average length of service of all active, nonexempt, regular employees	Nonexempt Employee Tenure / Nonexempt Regular Headcount
Headcount Percent - Contingent - Total	Contingent employees as a percentage of total headcount	Total Contingent Headcount / Total Headcount
Headcount Percent - Contingent - Regular Employees	Contingent employees as a percentage of regular employee headcount	Total Contingent Headcount / Regular Employee Headcount
Headcount Percent - Contingent - On Payroll	Contingent on-payroll employees as a percentage of total headcount	Contingent On Payroll Headcount / Total Headcount
Headcount Percent - Contingent - Off Payroll	Contingent off-payroll employees as a percentage of total headcount	Contingent Off Payroll Headcount / Total Headcount
FTE Percent - Contingent - On Payroll	Contingent on-payroll FTE as a percentage total FTE	Contingent On Payroll FTE / Total FTE
FTE Percent - Contingent - Off Payroll	Contingent off-payroll FTE as a percentage total FTE	Contingent Off Payroll FTE / Total FTE
FTE Percent - Management	Management FTE as a percentage total FTE	Management FTE / Total FTE
FTE Percent - Professionals	Professional FTE as a percentage total FTE	Professionals FTE / Total FTE
FTE Percent - Sales	Sales FTE as a percentage total FTE	Sales FTE / Total FTE

Name	Description	Formula
FTE Percent - Office & Clerical	Office & Clerical FTE as a percentage total FTE	Office & Clerical FTE / Total FTE
FTE Percent - Operatives	Operatives FTE as a percentage total FTE	Operatives FTE / Total FTE

Human Resources Structure

Table A1.2 *Human Resources Structure Measures*

Name	Description	Formula
HR Expense Percent	Internal and external HR expenses as a percentage of operating expense	HR Expense / Operating Expense
HR FTE Ratio - Total	Total number of FTE employees that each Human Resource FTE supports	Total FTE / Total HR FTE
HR FTE Ratio - Regular Employees	All regular employees that each Human Resource FTE supports	Regular FTE / Total HR FTE
HR Exempt Percent - Total	Exempt HR FTE as a percentage of total HR FTE	HR Exempt FTE / Total HR FTE
HR Exempt Percent - Regular Employees	Exempt HR FTE as a percentage of regular HR FTE	HR Exempt FTE / Regular HR FTE
HR FTE Investment Factor - Total	Dollars spent on Human Resource functions per total FTE	HR Expense / Total FTE
HR FTE Investment Factor - Regular Employees	Dollars spent on Human Resource functions per regular FTE	HR Expense / Regular FTE
HR Headcount Investment Factor - Total	Dollars spent on Human Resource functions per headcount employee	HR Expense / Total Headcount
HR Headcount Investment Factor-Regular Employees	Dollars spent on Human Resource functions per regular employee headcount	HR Expense / Regular Employee Headcount
HR Outsourcing Percent	HR outsourcing expenses as a percentage of total HR expense	HR Outsourcing Cost / HR Expense
HR Consulting Percent	HR consulting services expenses as a percentage of HR expense	HR Consulting Cost / HR Expense

Name	Description	Formula
HR Compensation Expense Percent	HR compensation costs as a percentage of total operating expenses	HR Compensation Cost / Operating Expense
HR Employee Cost Factor	Average compensation paid to regular HR FTE	HR Compensation Cost / Regular HR FTE
HR Total Employee Cost Factor	Average compensation paid to regular HR employees including benefit costs	HR Compensation Cost * (1 + Benefits Comp Percent / Compensation Cost (Workforce of Payroll)) / Regular HR FTE
HR Separation Rate - Total	HR employees who terminated as a percentage of total HR headcount	Total HR Separations / Total HR Headcount
HR Separation Rate - Exempt	HR exempt employees who terminated as a percentage of total HR headcount	Exempt HR Separations / Exempt HR Headcount
HR Separation Rate - Nonexempt	HR nonexempt employees who terminated as a percentage of total HR headcount	Nonexempt HR Separations / Nonexempt HR Headcount
HR Structure Breakdown - Administrative	HR FTE in Administrative functions as a percentage of total HR FTE	HR Administrative FTE / Total HR FTE
HR Structure Breakdown - Benefits	HR FTE in Benefit functions as a percentage of total HR FTE	HR Benefits FTE / Total HR FTE
HR Structure Breakdown - Compensation	HR FTE in Compensation functions as a percentage of total HR FTE	HR Compensation FTE / Total HR FTE
HR Structure Breakdown - Employee Relations	HR FTE in Employee Relations functions as a percentage of total HR FTE	HR Employee Relations FTE / Total HR FTE
HR Structure Breakdown - HRIS	HR FTE in HRIS functions as a percentage of total HR FTE	HR HRIS FTE / Total HR FTE
HR Structure Breakdown - HR Management	HR FTE in HR Management functions as a percentage of total HR FTE	HR Management FTE / Total HR FTE
HR Structure Breakdown - Legal	HR FTE in Legal functions as a percentage of total HR FTE	HR Legal FTE / Total HR FTE
HR Structure Breakdown - Staffing	HR FTE in Staffing functions as a percentage of total HR FTE	HR Staffing FTE / Total HR FTE

Compensation

Table A1.3 *Compensation Measures*

Name	Description	Formula
Compensation Revenue Percent - Workforce Employees	Workforce on-payroll compensation cost as a percentage of revenue	Compensation Cost (Workforce on Payroll) / Revenue
Compensation Revenue Percent - Regular Employees	Regular employee compensation cost as a percentage of revenue	Compensation Cost (Regular Employees) / Revenue
Total Compensation Revenue Percent	Workforce on-payroll compensation and benefit cost, excluding payments for time not worked (EPTNW), as a percentage of revenue	(Compensation Cost (Workforce on Payroll) + Benefit Cost EPTNW) / Revenue
Total Labor Cost Revenue Percent	Total compensation and benefit costs, excluding payments for time not worked (EPTNW), as a percentage of revenue	(Compensation Cost (Total) + Benefit Cost EPTNW) / Revenue
Compensation Expense Percent - Workforce Employees	Workforce on-payroll compensation cost as a percentage of operating expense	Compensation Cost (Workforce on Payroll) / Operating Expense
Compensation Expense Percent - Regular Employees	Regular employee compensation cost as a percentage of operating expense	Compensation Cost (Regular Employees) / Operating Expense
Total Compensation Expense Percent	Workforce on-payroll compensation and benefit cost, excluding payments for time not worked (EPTNW), as a percentage of operating expense	(Compensation Cost (Workforce on Payroll) + Benefit Cost EPTNW) / Operating Expense
Total Labor Cost Expense Percent	Total compensation and benefit costs, excluding payments for time not worked (EPTNW) as a percentage of operating expense	(Compensation Cost (Total) + Benefit Cost EPTNW) / Operating Expense
Compensation Percent - Executive	Executive compensation cost as a percentage of workforce on payroll compensation cost	Compensation Cost (Executive) / Compensation Cost (Workforce on Payroll)
Compensation Percent - Staff	Staff compensation cost as a percentage of workforce on payroll compensation cost	Compensation Cost (Staff) / Compensation Cost (Workforce on Payroll)
Compensation Percent - Variable	Variable compensation cost as a percentage of workforce on-payroll compensation cost	Variable Compensation Cost / Compensation Cost (Workforce on Payroll)

Name	Description	Formula
Compensation Percent - Contingent - Total	Total contingent compensation cost as a percentage of workforce on-payroll compensation cost	Contingent Cost / Compensation Cost (Workforce on Payroll)
Compensation Percent - Contingent - On Payroll	Contingent on-payroll compensation cost as a percentage of workforce on-payroll compensation cost	Contingent On Payroll Cost / Compensation Cost (Workforce on Payroll)
Compensation Percent - Contingent - Off Payroll	Contingent off-payroll compensation cost as a percentage of workforce on-payroll compensation cost	Contingent Off Payroll Cost / Compensation Cost (Workforce on Payroll)
Contingent Cost Revenue Percent - Total	Costs of contingent workers as a percentage of revenue generated	Contingent Cost / Revenue
Contingent Cost Revenue Percent - On Payroll	Costs of contingent on-payroll workers as a percentage of revenue generated	Contingent On Payroll Cost / Revenue
Contingent Cost Revenue Percent - Off Payroll	Costs of contingent off-payroll workers as a percentage of revenue generated	Contingent Off Payroll Cost / Revenue
Contingent Cost Expense Percent - Total	Costs of contingent workers as a percentage of operating expenses	Contingent Cost / Operating Expense
Contingent Cost Expense Percent - On Payroll	Costs of on-payroll contingent on-payroll workers as a percentage of operating expenses	Contingent On Payroll Cost / Operating Expense
Contingent Cost Expense Percent - Off Payroll	Costs of contingent off-payroll workers as a percentage of operating expenses	Contingent Off Payroll Cost / Operating Expense
Employee Cost Factor - Regular Employees	Average compensation paid to each regular FTE employee	Compensation Cost (Regular Employee) / Regular Employee FTE
Employee Cost Factor - Workforce	Average compensation paid to each workforce on payroll FTE employee	Compensation Cost (Workforce on Payroll) / Workforce on Payroll FTE
Employee Cost Factor - Executive	Average compensation paid to executive level staff (vice-president level and above)	Compensation Cost (Executive) / Executive FTE
Employee Cost Factor - Manager	Average compensation paid to managers	Compensation Cost (Manager) / Manager FTE
Employee Cost Factor - Staff	Average compensation paid to individual contributor employees, not including executives, managers and contingents	Compensation Cost (Staff) / Staff FTE

Name	Description	Formula
Total Employee Cost Factor	Average compensation and benefit costs, excluding payments for time not worked (EPTNW), per regular employee FTE	(Compensation Cost (Regular Employee) + Benefits Cost EPTNW) / Regular Employee FTE
Total Labor Cost Factor	Average compensation and benefit costs, excluding payments for time not worked (EPTNW), per all FTE, including contingent off-payroll employees	(Compensation Cost (Total) + Benefits EPTNW) / Total FTE
Contingent Cost Factor - Total	Average dollars paid to each contingent worker	Contingent Cost / Total Contingent FTE
Contingent Cost Factor - On Payroll	Average dollars paid to each contingent on-payroll worker	Contingent On Payroll Cost / Contingent On Payroll FTE
Contingent Cost Factor - Off Payroll	Average dollars paid to each contingent off-payroll worker	Contingent Off Payroll Cost / Contingent Off Payroll FTE

Benefits

Table A1.4 *Benefits Measures*

Name	Description	Formula
Benefit Revenue Percent	Employee benefit cost as a percentage of revenue	Benefit Cost / Revenue
Benefit Expense Percent	Employee benefit cost as a percentage of operating expense	Benefit Cost / Operating Expense
Benefit Compensation Percent - Total	Employee benefit cost as a percentage of workforce on-payroll compensation cost	Benefit Cost EPTNW / Compensation Cost (Workforce on Payroll)
Benefit Compensation Percent - Regular Employees	Employee benefit cost as a percentage of regular employee compensation cost	Benefit Cost EPTNW / Comp. Cost (Regular Employees)
Benefit Factor	Average cost of benefits per workforce on-payroll employee	Benefit Cost / Workforce on Payroll Headcount
Benefit Factor - Regular Employees	Average cost of benefits per regular employee headcount	Benefit Cost / Regular Employee Headcount

Name	Description	Formula
Healthcare Factor	Medical and healthcare benefit cost per covered employee	Medical & Medically Related Benefit Payments / Employees and Retirees participating in Health Program
Workers' Compensation Factor	Workers' compensation cost per workforce on-payroll employee	Workers' Compensation Cost / Workforce on Payroll Headcount
Workers' Compensation Factor - Regular Employees	Workers' compensation cost per covered regular employee	Workers' Compensation Cost / Regular Employee Headcount
Benefit Cost Breakdown - Legally Required Payments	Legally required payments as a percentage of total benefit cost	Legally Required Payments / Benefit Cost
Benefit Cost Breakdown - Retirement & Savings Plan Payments	Retirement and savings plan payments as a percentage of total benefit cost	Retirement & Savings Plan Payments / Benefit Cost
Benefit Cost Breakdown - Life Insurance & Death Benefit Payments	Life insurance and death benefit payments as a percentage of total benefit cost	Life Insurance & Death Benefit Payments / Benefit Cost
Benefit Cost Breakdown - Medical & Medically Related Benefit Payments	Medical and medically related benefit cost as a percentage of total benefit cost	Medical & Medically Related Benefit Payments / Benefit Cost
Benefit Cost Breakdown - Payments for Time Not Worked	Payments for time not worked as a percentage of total benefit cost	Payments for Time Not Worked / Benefit Cost
Benefit Cost Breakdown - Miscellaneous Benefit Payments	Miscellaneous benefit payments as a percentage of total benefit cost	Miscellaneous Benefit Payments / Benefit Cost

Separations

Table A1.5 *Separations Measures*

Name	Description	Formula
Separation Rate - Total	Total voluntary and involuntary terminations as a percentage of employee headcount	Total Separations / Regular Employee Headcount

Name	Description	Formula
Separation Rate - Exempt	Total voluntary and involuntary exempt terminations as a percentage of employee headcount	Total Exempt Separations / Exempt Regular Headcount
Separation Rate - Nonexempt	Total voluntary and involuntary nonexempt terminations as a percentage of employee headcount	Total Nonexempt Separations / Nonexempt Regular Headcount
Voluntary Separation Rate - Total	Voluntary terminations as a percentage of employee headcount	Total Voluntary Separations / Regular Employee Headcount
Voluntary Separation Rate - Exempt	Voluntary exempt terminations as a percentage of employee headcount	Exempt Voluntary Separations / Exempt Regular Headcount
Voluntary Separation Rate - Nonexempt	Voluntary nonexempt terminations as a percentage of employee headcount	Nonexempt Voluntary Separations / Nonexempt Regular Headcount
Involuntary Separation Rate - Total	Involuntary terminations as a percentage of employee headcount	Total Involuntary Separations / Regular Employee Headcount
Involuntary Separation Rate - Exempt	Involuntary exempt terminations as a percentage of employee headcount	Exempt Involuntary Separations / Exempt Regular Headcount
Involuntary Separation Rate - Nonexempt	Involuntary nonexempt terminations as a percentage of employee headcount	Nonexempt Involuntary Separations / Nonexempt Regular Headcount
Voluntary Separations by LOS - 0 to 1 Year	Voluntary separations with less than one year of service as a percentage of total voluntary separations	Voluntary Separations - 0 to 1 Yr / Total Voluntary Separations
Voluntary Separations by LOS - 0 to 1 Year - Exempt	Voluntary exempt separations with less than one year of service as a percentage of exempt voluntary separations	Exempt Voluntary Separations - 0 to 1 Yr / Exempt Voluntary Separations
Voluntary Separations by LOS - 0 to 1 Year - Nonexempt	Voluntary nonexempt separations with less than one year of service as a percentage of nonexempt voluntary separations	Nonexempt Voluntary Separations - 0 to 1 Yr / Nonexempt Vol Separations
Voluntary Separations by LOS - 1+ to 3 Years	Voluntary separations with one to three years of service as a percentage of total voluntary separations	Voluntary Separations - 1+ to 3 Yrs / Total Voluntary Separations
Voluntary Separations by LOS - 1+ to 3 Years - Exempt	Voluntary exempt separations with one to three years of service as a percentage of exempt voluntary separations	Exempt Voluntary Separations - 1+ to 3 Yrs / Exempt Voluntary Separations

Name	Description	Formula
Voluntary Separations by LOS - 1+ to 3 Years - Nonexempt	Voluntary nonexempt separations with one to three years of service as a percentage of nonexempt voluntary separations	Nonexempt Voluntary Separations - 1+ to 3 Yrs / Nonexempt Vol Separations
Voluntary Separations by LOS - 3+ to 5 Years	Voluntary separations with three to five years of service as a percentage of total voluntary separations	Voluntary Separations - 3+ to 5 Yrs / Total Voluntary Separations
Voluntary Separations by LOS - 3+ to 5 Years - Exempt	Voluntary exempt separations with three to five years of service as a percentage of exempt voluntary separations	Exempt Voluntary Separations - 3+ to 5 Yrs / Exempt Voluntary Separations
Voluntary Separations by LOS - 3+ to 5 Years - Nonexempt	Voluntary nonexempt separations with three to five years of service as a percentage of nonexempt voluntary separations	Nonexempt Voluntary Separations - 3+ to 5 Yrs / Nonexempt Vol Separations
Voluntary Separations by LOS - 5+ to 10 Years	Voluntary separations with five to ten years of service as a percentage of total voluntary separations	Voluntary Separations - 5+ to 10 Yrs / Total Voluntary Separations
Voluntary Separations by LOS - 5+ to 10 Years - Exempt	Voluntary exempt separations with five to ten years of service as a percentage of exempt voluntary separations	Exempt Voluntary Separations - 5+ to 10 Yrs / Exempt Voluntary Separations
Voluntary Separations by LOS - 5+ to 10 Years - Nonexempt	Voluntary nonexempt separations with five to ten years of service as a percentage of nonexempt voluntary separations	Nonexempt Voluntary Separations - 5+ to 10 Yrs / Nonexempt Vol Separations
Voluntary Separations by LOS - 10+ Years	Voluntary separations with more than ten years of service as a percentage of total voluntary separations	Voluntary Separations - 10+ Yrs / Total Voluntary Separations
Voluntary Separations by LOS - 10+ Years - Exempt	Voluntary exempt separations with more than ten years of service as a percentage of exempt voluntary separations	Exempt Voluntary Separations - 10+ Yrs / Exempt Voluntary Separations
Voluntary Separations by LOS - 10+ Years - Nonexempt	Voluntary nonexempt separations with more than ten years of service as a percentage of nonexempt voluntary separations	Nonexempt Voluntary Separations - 10+ Yrs / Nonexempt Vol Separations
Separation Rate - Management	Total voluntary and involuntary management terminations as a percentage of management employee headcount	Total Management Separations / Management Headcount

Name	Description	Formula
Separation Rate - Professionals	Total voluntary and involuntary professional terminations as a percentage of professional employee headcount	Total Professionals Separations / Professionals Headcount
Separation Rate - Sales	Total voluntary and involuntary sales terminations as a percentage of sales employee headcount	Total Sales Separations / Sales Headcount
Separation Rate - Office & Clerical	Total voluntary and involuntary office & clerical terminations as a percentage of office & clerical employee headcount	Total Office & Clerical Separations / Office & Clerical Headcount
Separation Rate - Operatives	Total voluntary and involuntary operative terminations as a percentage of operative employee headcount	Total Operatives Separations / Operatives Headcount
Voluntary Separation Rate - Management	Voluntary management terminations as a percentage of management employee headcount	Management Voluntary Separations / Management Headcount
Voluntary Separation Rate - Professionals	Voluntary professional terminations as a percentage of professional employee headcount	Professionals Voluntary Separations / Professionals Headcount
Voluntary Separation Rate - Sales	Voluntary sales terminations as a percentage of sales employee headcount	Sales Voluntary Separations / Sales Headcount
Voluntary Separation Rate - Office & Clerical	Voluntary office & clerical terminations as a percentage of office & clerical employee headcount	Office & Clerical Voluntary Separations / Office & Clerical Headcount
Voluntary Separation Rate - Operatives	Voluntary operative terminations as a percentage of operative employee headcount	Operatives Voluntary Separations / Operatives Headcount
Involuntary Separation Rate - Management	Involuntary management terminations as a percentage of management employee headcount	Management Involuntary Separations / Management Headcount
Involuntary Separation Rate - Professionals	Involuntary professional terminations as a percentage of professional employee headcount	Professionals Involuntary Separations / Professionals Headcount
Involuntary Separation Rate - Sales	Involuntary sales terminations as a percentage of sales employee headcount	Sales Involuntary Separations / Sales Headcount
Involuntary Separation Rate - Office & Clerical	Involuntary office & clerical terminations as a percentage of office & clerical employee headcount	Office & Clerical Involuntary Separations / Office & Clerical Headcount

Name	Description	Formula
Involuntary Separation Rate - Operatives	Involuntary operative terminations as a percentage of operative employee headcount	Operatives Involuntary Separations / Operatives Headcount
Voluntary Separations by LOS - 0 to 1 Year - Management	Voluntary management terminations with less than one year of service as a percentage of management voluntary separations	Management Vol Separations - 0 to 1 Yr / Management Vol Separations
Voluntary Separations by LOS - 1+ to 3 Years - Management	Voluntary management terminations with one to three years of service as a percentage of management voluntary separations	Management Vol Separations - 1+ to 3 Yrs / Management Vol Separations
Voluntary Separations by LOS - 3+ to 5 Years - Management	Voluntary management terminations with three to five years of service as a percentage of management voluntary separations	Management Vol Separations - 3+ to 5 Yrs / Management Vol Separations
Voluntary Separations by LOS - 5+ to 10 Years - Management	Voluntary management terminations with five to ten years of service as a percentage of management voluntary separations	Management Vol Separations - 5+ to 10 Yrs / Management Vol Separations
Voluntary Separations by LOS - 10+ Years - Management	Voluntary management terminations with more than ten years of service as a percentage of management voluntary separations	Management Vol Separations - 10+ Yrs / Management Vol Separations
Voluntary Separations by LOS - 0 to 1 Year - Professionals	Voluntary professionals terminations with less than one year of service as a percentage of professional voluntary separations	Professionals Vol Separations - 0 to 1 Yr / Professionals Vol Separations
Voluntary Separations by LOS - 1+ to 3 Years - Professionals	Voluntary professionals terminations with one to three years of service as a percentage of professional voluntary separations	Professionals Vol Separations - 1+ to 3 Yrs / Professionals Vol Separations
Voluntary Separations by LOS - 3+ to 5 Years - Professionals	Voluntary professionals terminations with three to five years of service as a percentage of professional voluntary separations	Professionals Vol Separations - 3+ to 5 Yrs / Professionals Vol Separations
Voluntary Separations by LOS - 5+ to 10 Years - Professionals	Voluntary professionals terminations with five to ten years of service as a percentage of professional voluntary separations	Professionals Vol Separations - 5+ to 10 Yrs / Professionals Vol Separations
Voluntary Separations by LOS - 10+ Years - Professionals	Voluntary professionals terminations with more than years of service as a percentage of professional voluntary separations	Professionals Vol Separations - 10+ Yrs / Professionals Vol Separations

Name	Description	Formula
Voluntary Separations by LOS - 0 to 1 Year - Sales	Voluntary sales terminations with less than one year of service as a percentage of sales voluntary separations	Sales Voluntary Separations - 0 to 1 Yr / Sales Voluntary Separations
Voluntary Separations by LOS - 1+ to 3 Years - Sales	Voluntary sales terminations with one to three years of service as a percentage of sales voluntary separations	Sales Voluntary Separations - 1+ to 3 Yrs / Sales Voluntary Separations
Voluntary Separations by LOS - 3+ to 5 Years - Sales	Voluntary sales terminations with three to five years of service as a percentage of sales voluntary separations	Sales Voluntary Separations - 3+ to 5 Yrs / Sales Voluntary Separations
Voluntary Separations by LOS - 5+ to 10 Years - Sales	Voluntary sales terminations with five to ten years of service as a percentage of sales voluntary separations	Sales Voluntary Separations - 5+ to 10 Yrs / Sales Voluntary Separations
Voluntary Separations by LOS - 10+ Years - Sales	Voluntary sales terminations with more than ten years of service as a percentage of ales voluntary separations	Sales Voluntary Separations - 10+ Yrs / Sales Voluntary Separations
Voluntary Separations by LOS - 0 to 1 Year - Office & Clerical	Voluntary office & clerical terminations with less than one year of service as a percentage of office & clerical voluntary separations	Office & Clerical Voluntary Separations - 0 to 1 Yr / Office & Clerical Voluntary Separations
Voluntary Separations by LOS - 1+ to 3 Years - Office & Clerical	Voluntary office & clerical terminations with one to three years of service as a percentage of office & clerical voluntary separations	Office & Clerical Voluntary Separations - 1+ to 3 Yrs / Office & Clerical Voluntary Separations
Voluntary Separations by LOS - 3+ to 5 Years - Office & Clerical	Voluntary office & clerical terminations with three to five years of service as a percentage of office & clerical voluntary separations	Office & Clerical Voluntary Separations - 3+ to 5 Yrs / Office & Clerical Voluntary Separations
Voluntary Separations by LOS - 5+ to 10 Years - Office & Clerical	Voluntary office & clerical terminations with five to ten years of service as a percentage of office & clerical voluntary separations	Office & Clerical Voluntary Separations - 5+ to 10 Yrs / Office & Clerical Voluntary Separations
Voluntary Separations by LOS - 10+ Years - Office & Clerical	Voluntary office & clerical terminations with more than ten years of service as a percentage of office & clerical voluntary separations	Office & Clerical Voluntary Separations - 10+ Yrs / Office & Clerical Voluntary Separations
Voluntary Separations by LOS - 0 to 1 Year - Operatives	Voluntary operatives' terminations with less than one year of service as a percentage of operatives voluntary separations	Operatives Vol Separations - 0 to 1 Yr / Operatives Vol Separations

Name	Description	Formula
Voluntary Separations by LOS - 1+ to 3 Years - Operatives	Voluntary operatives' terminations with one to three years of service as a percentage of operatives voluntary separations	Operatives Vol Separations - 1+ to 3 Yrs / Operatives Vol Separations
Voluntary Separations by LOS - 3+ to 5 Years - Operatives	Voluntary operatives' terminations with three to five years of service as a percentage of operatives voluntary separations	Operatives Vol Separations - 3+ to 5 Yrs / Operatives Vol Separations
Voluntary Separations by LOS - 5+ to 10 Years - Operatives	Voluntary operatives' terminations with five to ten years of service as a percentage of operatives voluntary separations	Operatives Vol Separations - 5+ to 10 Yrs / Operatives Vol Separations
Voluntary Separations by LOS - 10+ Years - Operatives	Voluntary operatives' terminations with more than years of service as a percentage of operatives voluntary separations	Operatives Vol Separations - 10+ Yrs / Operatives Vol Separations

Staffing

Table A1.6 *Staffing Measures*

Name	Description	Formula
Accession Rate - Total	All hires as a percentage of regular employee headcount	Total Hires / Regular Employee Headcount
Accession Rate - Exempt	All exempt hires as a percentage of exempt regular employee headcount	Exempt Hires / Exempt Regular Headcount
Accession Rate - Nonexempt	All nonexempt hires as a percentage of nonexempt regular employee headcount	Nonexempt Hires / Nonexempt Regular Headcount
Accession Rate - External - Total	External new hire employees as a percentage of regular employee headcount	External Hires / Regular Employee Headcount
Accession Rate - External - Exempt	External exempt new hire employees as a percentage of exempt regular employee headcount	Exempt External Hires / Exempt Regular Headcount
Accession Rate - External - Nonexempt	External nonexempt new hire employees as a percentage of nonexempt regular employee headcount	Nonexempt External Hires / Nonexempt Regular Headcount

Name	Description	Formula
Accession Rate - Internal - Total	Internal new hire employees as a percentage of regular employee headcount	Internal Hires / Regular Employee Headcount
Accession Rate - Internal - Exempt	Internal exempt new hire employees as a percentage of exempt regular employee headcount	Exempt Internal Hires / Exempt Regular Headcount
Accession Rate - Internal - Nonexempt	Internal nonexempt new hire employees as a percentage of nonexempt regular employee headcount	Nonexempt Internal Hires / Nonexempt Regular Headcount
Accession Rate - College - Total	All college hires as a percentage of regular employee headcount	College Hires / Regular Employee Headcount
Add Rate - Total	Employees hired to fill new positions as a percentage of regular employee headcount	Total Add Hires / Regular Employee Headcount
Add Rate - Exempt	Exempt employees hired to fill new positions as a percentage of exempt regular headcount	Exempt Add Hires / Exempt Regular Headcount
Add Rate - Nonexempt	Nonexempt employees hired to fill new positions as a percentage of nonexempt regular headcount	Nonexempt Add Hires / Nonexempt Regular Headcount
Add Rate - External - Total	External employees hired to new positions as a percentage of regular employee headcount	External Add Hires / Regular Employee Headcount
Add Rate - External - Exempt	External exempt employees hired to new positions as a percentage of exempt regular employee headcount	Exempt External Add Hires / Exempt Regular Headcount
Add Rate - External - Nonexempt	External nonexempt employees hired to new positions as a percentage of nonexempt regular employee headcount	Nonexempt External Add Hires / Nonexempt Regular Headcount
Add Rate - Internal - Total	Internal employees hired to new positions as a percentage of regular employee headcount	Internal Add Hires / Regular Employee Headcount
Add Rate - Internal - Exempt	Internal exempt employees hired to new positions as a percentage of exempt regular employee headcount	Exempt Internal Add Hires / Exempt Regular Headcount
Add Rate - Internal - Nonexempt	Internal nonexempt employees hired to new positions as a percentage of nonexempt regular employee headcount	Add Rate - Internal - Nonexempt

Name	Description	Formula
Replacement Rate - Total	Employees hired to fill existing positions as a percentage of regular employee headcount	Total Replacement Hires / Regular Employee Headcount
Replacement Rate - Exempt	Exempt employees hired to fill existing positions as a percentage of exempt regular employee headcount	Exempt Replacement Hires / Exempt Regular Headcount
Replacement Rate - Nonexempt	Nonexempt employees hired to fill existing positions as a percentage of nonexempt regular employee headcount	Nonexempt Replacement Hires / Nonexempt Regular Headcount
Replacement Rate - External - Total	External employees hired to fill existing positions as a percentage of regular employee headcount	External Replacement Hires / Regular Employee Headcount
Replacement Rate - External - Exempt	External exempt employees hired to fill existing positions as a percentage of exempt regular employee headcount	Exempt External Replacement Hires / Exempt Regular Headcount
Replacement Rate - External - Nonexempt	External nonexempt employees hired to fill existing positions as a percentage of nonexempt regular employee headcount	Nonexempt External Replacement Hires / Nonexempt Regular Headcount
Replacement Rate - Internal - Total	Internal employees hired to fill existing positions as a percentage of regular employee headcount	Internal Replacement Hires / Regular Employee Headcount
Replacement Rate - Internal - Exempt	Internal exempt employees hired to fill existing positions as a percentage of exempt regular employee headcount	Exempt Internal Replacement Hires / Exempt Regular Headcount
Replacement Rate - Internal - Nonexempt	Internal nonexempt employees hired to fill existing positions as a percentage of nonexempt regular employee headcount	Nonexempt Internal Replacement Hires / Nonexempt Regular Headcount
Career Path Ratio - Total	Promotions as a percentage of all movement within the organization	Total Promotions / (Total Promotions + Total Transfers)
Career Path Ratio - Exempt	Exempt promotions as a percentage of exempt movement within the organization	Exempt Promotions / (Exempt Promotions + Exempt Transfers)
Career Path Ratio - Nonexempt	Nonexempt promotions as a percentage of nonexempt movement within the organization	Nonexempt Promotions / (Nonexempt Promotions + Nonexempt Transfers)
Cost per Hire - Total	Average dollars spent on hiring costs per employee hired	(Total Hiring Costs * 1.1 Factor) / Total Hires

Name	Description	Formula
Cost Per Hire - Exempt	Average dollars spent on exempt employee hiring costs per exempt employee hired	(Exempt Hiring Costs * 1.1 Factor) / Exempt Hires
Cost Per Hire - Nonexempt	Average dollars spent on nonexempt employee hiring costs per nonexempt employee hired	(Nonexempt Hiring Costs * 1.1 Factor) / Nonexempt Hires
Cost Per Hire - External - Total	Average dollars spent on external employee hiring costs per external employee hired	(External Hiring Costs * 1.1 Factor) / External Hires
Cost Per Hire - External - Exempt	Average dollars spent on exempt external employee hiring costs per exempt external employee hired	(Exempt External Hiring Costs * 1.1 Factor) / Exempt External Hires
Cost Per Hire - External - Nonexempt	Average dollars spent on nonexempt external employee hiring costs per nonexempt external employee hired	(Nonexempt External Hiring Costs * 1.1 Factor) / Nonexempt External Hires
Cost Per Hire - Internal - Total	Average dollars spent on internal employee hiring costs per internal employee hired	(Internal Hiring Costs * 1.1 Factor) / Internal Hires
Cost Per Hire - Internal - Exempt	Average dollars spent on exempt internal employee hiring costs per exempt internal employee hired	(Exempt Internal Hiring Costs * 1.1 Factor) / Exempt Internal Hires
Cost Per Hire - Internal - Nonexempt	Average dollars spent on nonexempt internal employee hiring costs per nonexempt internal employee hired	(Nonexempt Internal Hiring Costs * 1.1 Factor) / Nonexempt Internal Hires
Cost Per Hire - College - Total	Average dollars spent on college employee hiring costs per college employee hired	(College Hiring Costs * 1.1 Factor) / College Hires
Cost Per Hire - Advertising	Advertising costs as a percentage of total new hire cost	Cost Per Hire - Advertising
Cost Per Hire - Agency	Agency costs as a percentage of total new hire cost	Agency Hiring Costs / Total Hiring Costs
Cost Per Hire - Referral Bonuses	Referral bonuses costs as a percentage of total new hire cost	Referral Bonuses Hiring Costs / Total Hiring Costs
Cost Per Hire - Travel	Travel costs as a percentage of total new hire cost	Travel Hiring Costs / Total Hiring Costs
Cost Per Hire - Relocation	Relocation costs as a percentage of total new hire cost	Relocation Hiring Costs / Total Hiring Costs
Cost Per Hire - Recruiter	HR recruiter costs as a percentage of total new hire cost	Recruiter Hiring Costs / Total Hiring Costs

Name	Description	Formula
Cost Per Hire - External - Advertising	External advertising costs as a percentage of total external new hire cost	External Advertising Hiring Costs / External Hiring Costs
Cost Per Hire - External - Agency	External agency costs as a percentage of total external new hire cost	External Agency Hiring Costs / External Hiring Costs
Cost Per Hire - External - Referral Bonuses	External referral bonuses costs as a percentage of total external new hire cost	External Referral Bonuses Hiring Costs / External Hiring Costs
Cost Per Hire - External - Travel	External travel costs as a percentage of total external new hire cost	External Travel Hiring Costs / External Hiring Costs
Cost Per Hire - External - Relocation	External relocation costs as a percentage of total external new hire cost	External Relocation Hiring Costs / External Hiring Costs
Cost Per Hire - External - Recruiter	External HR recruiter costs as a percentage of total external new hire cost	External Recruiter Hiring Costs / External Hiring Costs
Cost Per Hire - Internal - Advertising	Internal advertising costs as a percentage of total internal new hire cost	Internal Advertising Hiring Costs / Internal Hiring Costs
Cost Per Hire - Internal - Travel	Internal travel costs as a percentage of total internal new hire cost	Internal Travel Hiring Costs / Internal Hiring Costs
Cost Per Hire - Internal - Relocation	Internal relocation costs as a percentage of total internal new hire cost	Internal Relocation Hiring Costs / Internal Hiring Costs
Cost Per Hire - Internal - Recruiter	Internal HR recruiter costs as a percentage of total internal new hire cost	Internal Recruiter Hiring Costs / Internal Hiring Costs
Time to Fill - Total	Average number of calendar days from requisition date to offer acceptance per hire	Total Days to Fill / Total Hires
Time to Fill - Exempt	Average number of calendar days from requisition date to offer acceptance per exempt hire	Exempt Days to Fill / Exempt Hires
Time to Fill - Nonexempt	Average number of calendar days from requisition date to offer acceptance per nonexempt hire	Nonexempt Days to Fill / Nonexempt Hires
Time to Fill - External - Total	Number of calendar days from requisition date to offer acceptance per new external hire	External Days to Fill / External Hires

Name	Description	Formula
Time to Fill - External - Exempt	Number of calendar days from requisition date to offer acceptance per new external exempt hire	Exempt External Days to Fill / Exempt External Hires
Time to Fill - External - Nonexempt	Number of calendar days from requisition date to offer acceptance per new external nonexempt hire	Nonexempt External Days to Fill / Nonexempt External Hires
Time to Fill - Internal - Total	Number of calendar days from requisition date to offer acceptance per new internal hire	Internal Days to Fill / Internal Hires
Time to Fill - Internal - Exempt	Number of calendar days from requisition date to offer acceptance per new internal exempt hire	Exempt Internal Days to Fill / Exempt Internal Hires
Time to Fill - Internal - Nonexempt	Number of calendar days from requisition date to offer acceptance per new internal nonexempt hire	Nonexempt Internal Days to Fill / Nonexempt Internal Hires
Time to Start - Total	Average number of calendar days from requisition date to employee start date per hire	Total Days to Start / Total Hires
Time to Start - Exempt	Average number of calendar days from requisition date to employee start date per exempt hire	Exempt Days to Start / Exempt Hires
Time to Start - Nonexempt	Average number of calendar days from requisition date to employee start date per nonexempt hire	Nonexempt Days to Start / Nonexempt Hires
Time to Start - External - Total	Average number of calendar days from requisition date to employee start date per new external hire	External Days to Start / External Hires
Time to Start - External - Exempt	Average number of calendar days from requisition date to employee start date per new external exempt hire	Exempt External Days to Start / Exempt External Hires
Time to Start - External - Nonexempt	Average number of calendar days from requisition date to employee start date per new external nonexempt hire	Nonexempt External Days to Start / Nonexempt External Hires
Time to Start - Internal - Total	Average number of calendar days from requisition date to employee start date per new internal hire	Internal Days to Start / Internal Hires
Time to Start - Internal - Exempt	Average number of calendar days from requisition date to employee start date per new internal exempt hire	Exempt Internal Days to Start / Exempt Internal Hires

Name	Description	Formula
Time to Start - Internal - Nonexempt	Average number of calendar days from requisition date to employee start date per new internal nonexempt hire	Nonexempt Internal Days to Start / Nonexempt Internal Hires
Offer Acceptance Rate	Offers accepted as a percentage of offers made	Total Offers Accepted / Total Offers Extended
Offer Acceptance Rate - External	External new hire offers accepted as a percentage of external new hire offers made	External Offers Accepted / External Offers Extended
Offer Acceptance Rate - College	New college hire offers accepted as a percentage of new college hire offers made	College Offers Accepted / College Offers Extended
Sign-On Bonus Percent	New hires receiving a sign-on bonus as a percentage of total new external and college hires	Total Hires Receiving Sign-On Bonuses / (External Hires + College Hires)
Sign-On Bonus Percent - Executive	New executive hires receiving a sign-on bonus as a percentage of total executive new hires	Executive Hires Receiving Sign-On Bonuses / Executive Hires
Sign-On Bonus Percent - Manager	New manager hires receiving a sign-on bonus as a percentage of total manager new hires	Manager Hires Receiving Sign-On Bonuses / Manager Hires
Sign-On Bonus Factor	Average sign-on bonus amount for each new hire who received sign-on bonus	Total Sign-On Bonus Cost / Total Hires Receiving Sign-On Bonuses
Sign-On Bonus Factor - Executive	Average sign-on bonus amount for each new executive hire who received sign-on bonus	Executive Sign-On Bonus Cost / Executive Hires Receiving Sign-On Bonuses
Sign-On Bonus Factor - Manager	Average sign-on bonus amount for each new manager hire who received sign-on bonus	Manager Sign-On Bonus Cost / Manager Hires Receiving Sign-On Bonuses

Training and Development

Table A1.7 *Training and Development Measures*

Name	Description	Formula
Employees Trained Percent	Employees receiving training as a percentage of total headcount	Workforce Trained / Total Headcount

Name	Description	Formula
Employees Trained Percent - Regular Employees	Employees receiving training as a percentage of regular employee headcount	Workforce Trained / Regular Employee Headcount
Training Cost Factor - Total	Dollars spent on training for each employee who received training	Total Training Cost / Workforce Trained
Training Cost Factor - Excluding Trainee Pay & Benefits	Average dollars spent on training for each employee who received training excluding Trainee Pay & Benefits	Total Training Cost (ETPB) / Workforce Trained
Training Cost Percent - Total	Total training costs as a percentage of operating expense	Total Training Cost / Operating Expense
Training Cost Percent - Excluding Trainee Pay & Benefits - Total	Total training costs as a percentage of operating expense excluding Trainee Pay & Benefits (ETPB)	Total Training Cost (ETPB) / Operating Expense
Training Cost Percent - Excluding Trainee Pay & Benefits - External	External training cost as a percentage of total training cost excluding Trainee Pay & Benefits	External Training Cost (ETPB) / Total Training Cost (ETPB)
Training Cost Percent - Excluding Trainee Pay & Benefits - Internal	Internal training cost as a percentage of total training cost excluding Trainee Pay & Benefits	Internal Training Cost (ETPB) / Total Training Cost (ETPB)
Training Cost HR Expense % - Total	Training cost as a percentage of HR expense	Total Training Cost / HR Expense
Training Cost HR Expense Percent - Excluding Trainee Pay & Benefits	Training cost as a percentage of HR expense excluding Trainee Pay & Benefits	Total Training Cost (ETPB) / HR Expense
Training Compensation % - Total	Training cost as a percentage of workforce on payroll compensation cost	Total Training Cost / Compensation Cost (Workforce on Payroll)
Training Compensation Percent - Regular Employees	Training cost as a percentage of regular employee compensation cost	Total Training Cost / Comp. Cost (Regular Employees)
Training Compensation Percent - Excluding Trainee Pay & Benefits (ETPB)	Training cost, excluding Trainee Pay & Benefits (ETPB) as a percentage of workforce on payroll compensation cost	Total Training Cost (ETPB) / Compensation Cost (Workforce on Payroll)
Training Compensation Percent - Regular Employees (ETPB)	Training cost, excluding trainee pay and benefits (ETPB) as a percentage of regular employee compensation cost	Total Training Cost ETPB / Comp. Cost (Regular Employees)
Training Headcount Investment Factor	Average dollars spent on training per headcount employee	Total Training Cost / Total Headcount

Name	Description	Formula
Training Headcount Investment Factor - Regular Employees	Average dollars spent on training per regular employee headcount	Total Training Cost / Regular Employee Headcount
Training Headcount Investment Factor - Excluding Trainee Pay & Benefits	Average dollars spent on training excluding trainee pay and benefits (ETPB) per headcount employee	Total Training Cost (ETPB) / Total Headcount
Training Headcount Investment Factor - Regular Employees (ETPB)	Average dollars spent on training excluding trainee pay and benefits (ETPB) per regular employee headcount	Total Training Cost (ETPB) / Regular Employee Headcount
Headcount Training Factor - Total	Average number of hours of training per headcount employee	Total Training Hours / Total Headcount
Headcount Training Factor - Regular Employees	Average number of hours of training per regular employee headcount	Total Training Hours / Regular Employee Headcount
FTE Training Factor - Total	Average number of hours of training per FTE employee	Total Training Hours / Total FTE
FTE Training Factor - Regular Employees	Average number of hours of training per regular FTE	Total Training Hours / Regular FTE
Training FTE Investment Factor - Total	Average dollar amount spent on training per FTE employee	Total Training Cost / Total FTE
Training FTE Investment Factor - Regular Employees	Average dollar amount spent on training per regular FTE	Total Training Cost / Regular FTE
Training FTE Investment Factor - Total - Exempt	Average dollar amount spent on exempt training per exempt FTE employee	Total Exempt Training Cost / Exempt FTE
Training FTE Investment Factor - Total - Nonexempt	Average dollar amount spent on nonexempt training per nonexempt FTE employee	Total Nonexempt Training Cost / Nonexempt FTE
Training FTE Investment Factor - Excl. Trainee Pay & Benefits - Total	Average dollar amount spent on training, excluding Trainee Pay & Benefits (ETPB), per FTE employee	Total Training Cost (ETPB) / Total FTE
Training FTE Investment Factor - ETPB - Regular Employees	Average dollar amount spent on training, excluding Trainee Pay & Benefits (ETPB), per regular FTE employee	Total Employee Training Cost (ETPB) / Regular FTE

Name	Description	Formula
Training FTE Investment Factor - ETPB - Exempt	Average dollar amount spent on exempt training, excluding Trainee Pay & Benefits (ETPB), per exempt FTE employee	Exempt Training Cost (ETPB) / Exempt FTE
Training FTE Investment Factor - ETPB - Nonexempt	Average dollar amount spent on nonexempt training, excluding Trainee Pay & Benefits (ETPB), per nonexempt FTE employee	Nonexempt Training Cost (ETPB) / Nonexempt FTE
Training Staff Ratio - Total	Average number of FTE employees supported by each training staff FTE	Total FTE / Training Staff FTE
Training Staff Ratio - Regular Employees	Average number of regular FTE employees supported by each training staff FTE	Regular FTE / Training Staff FTE
Training Cost Per Hour - Total	Average dollars spent on training per hour of training provided	Total Training Cost / Total Training Hours
Training Cost Per Hour - Excluding Trainee Pay & Benefits	Average dollars spent on training, excluding Trainee Pay and Benefits (ETPB) per hour of training provided	Total Training Cost (ETPB) / Total Training Hours
Training Hours Percent - Internal Staff	Internal training hours as a percentage of total training hours	Internal Staff Training Hours / Total Training Hours
Training Hours Percent - External Staff	External training hours as a percentage of total training hours	External Staff Training Hours / Total Training Hours

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