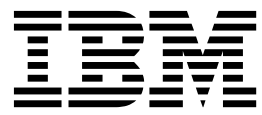


IBM Cognos Analytics
Version 11.0

Accessibility Guide



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Product Information

This document applies to IBM Cognos Analytics version 11.0.0 and may also apply to subsequent releases.

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Chapter 1. Accessibility features overview

Accessibility features assist users who have a disability, such as restricted mobility or limited vision, to use information technology content successfully. Cognos® Analytics includes accessibility features for navigating the user interface, and for authoring reports so that they're accessible for yourself or others.

Cognos Analytics includes the following major accessibility features:

- Keyboard-only operation.
- Operations that use a screen reader.
- User preference and report settings to enable accessibility features.
- Accessible report output for report runs, including jobs, job steps, subscriptions, and scheduled items.
- Operable in high contrast modes.
- Operable when the browser zoom level is increased up to 200%.

With a Microsoft Windows OS, use the latest release of the JAWS screen reader in combination with the latest Extended Support Release of the Mozilla Firefox web browser.

The first thing to do after you sign in is set your user preference to turn on accessibility features. You want to set this preference because only some parts of the user interface are accessible by default. For more information, see “Turning on accessibility features” on page 3.

With your preference set, you can navigate by keyboard throughout the user interface and you get accessible report output when you run reports that were authored to include accessibility features.

The Cognos Analytics sample report, *Employee satisfaction*, was authored to include accessibility features. The following figure is an example of output that includes accessibility features.

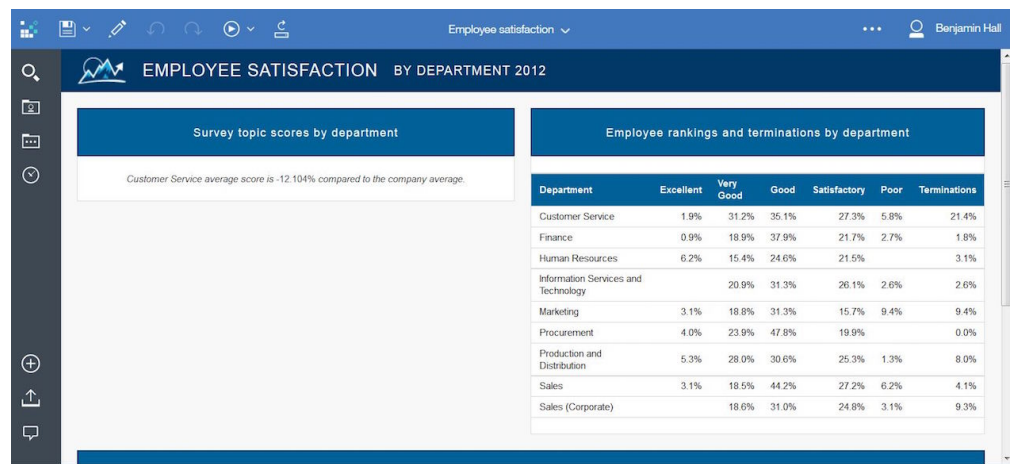


Figure 1. Accessible output for sample report

For comparison purposes, the following figure shows the same sample report run with accessibility features disabled and therefore appears with visually oriented graphics.

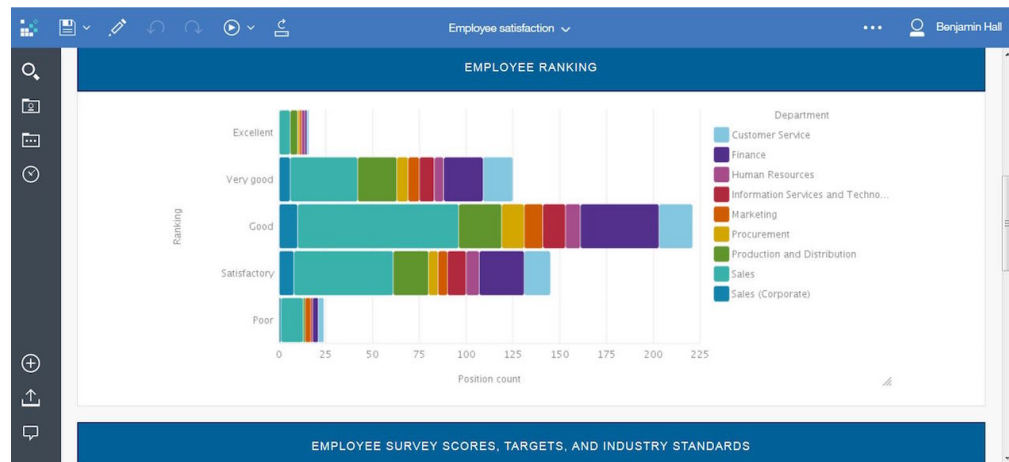


Figure 2. Output for sample report without accessibility features

For information on how to author accessible reports, see Chapter 2, “Accessible report authoring,” on page 7.

Text tour of the interface

The Cognos Analytics web user interface includes WAI-ARIA navigational landmarks that you can use to quickly navigate to functional areas in the application. Here's a description of the layout to help you get oriented.

After you sign in and you're on the **Welcome** home page, the user interface includes a navigation toolbar down the left of the window, an application toolbar across the top, and the main area for interacting with content.

From the left-side navigation bar you can search, open content folders or recent items, create new items (reports, dashboards, stories, data modules), open your notifications, upload data files, and open Manage if you're an administrator.

The application bar includes icons on the left, center, and right of the bar. The page switcher is in the center of the bar. Use the page switcher to open, remove, or change between pages. The personal menu on the far right, includes access to your user preferences, subscriptions, sign in, and sign out.

For descriptions of the functions in the different parts of the user interface, see the Getting Started Guide overview.

Additional interface information

The Cognos Analytics user interfaces do not have content that flashes 2 - 55 times per second.

The Cognos Analytics web user interfaces rely on cascading stylesheets to render content properly and to provide a usable experience. If you are a low-vision user, you can adjust your operating system display settings, and use settings such as

high contrast mode. You can control font size by using the device or web browser settings.


Turning on accessibility features

The user preference **Turn on accessibility features** is off by default. To turn it on, go to your **Personal menu** and open **My preferences**. You can set this preference by using mouse or keyboard navigation. The following procedure is for signing in and navigating by keyboard to set your preference.

About this task

When the **Turn on accessibility features** preference is off, its check box is not selected.

When the preference is selected, your experience in the user interface changes in the following ways:

- You can operate throughout the interface by using only a keyboard.
- When you run reports that were authored accessibly, you get accessible output.
- When you author reports, the option **Show on-demand UI on right click (More icon  , Options, View tab)** is automatically selected. As a result, report object toolbars do not appear. To show an object's toolbar, navigate to the object and press the Enter key.

Procedure

1. From the sign in screen, tab to **Select Namespace**. Press Enter to select a namespace. Optionally, if there are multiple namespaces, use the up and down arrow keys to navigate the list.
2. Tab to the **User ID** field, type your user ID, then tab to the **Password** field.
3. Type your password, and press Enter.
4. On the Welcome screen, tab to your **Personal menu** in the application bar.
5. With focus on the **Personal menu**, press Enter and tab to **My preferences**. Press Enter.
6. On the **My preferences** panel, tab to **Turn on accessibility features**, and press Enter to select the check box.
7. Press the Ctrl+S shortcut. The panel closes and your preference is set.

What to do next

If you want to subscribe to reports that include accessible output, you must first set the report properties to enable accessibility support. For more information, see “Enabling accessibility when subscribing and scheduling” on page 5.

Keyboard navigation

Cognos Analytics uses mainly standard navigation keys and gestures, but there are some unique keyboard shortcuts.

On mobile devices, when the VoiceOver feature is enabled, it acts as a screen reader. You can then navigate by using an Apple Bluetooth keyboard.

Cognos Analytics uses the following keyboard shortcuts.




Table 1. Keyboard shortcuts in Cognos Analytics

Action	Desktop keyboard shortcut	Mobile keyboard shortcut
Save changes to a slide-out panel.	Ctrl+S	Ctrl+S
Close slide-out panels (except for the modeling interface), drop-down lists, and toolbar menus.	Escape	Ctrl+[
Type text in a dashboard or story text field.	F12	Ctrl+1
Exit dashboard or story text field.	Shift+F12	Ctrl+0
Expand a visualization for editing.	F10	Ctrl+X
Go to the first row of a data grid.	Ctrl+Home	Ctrl+H
Go to the last row of a data grid.	Ctrl+End	Ctrl+E
Open the context menu.	Shift+F10	Not applicable

Keyboard navigation in the modeling interface

To navigate the modeling user interface, use the standard Cognos Analytics keyboard shortcuts, and some additional shortcuts that are provided in the following table. Please note that the mobile keyboard shortcuts are not applicable to the modeling component.

Table 2. Keyboard shortcuts in the Cognos Analytics modeling interface

Action	Desktop keyboard shortcut
Add metadata to a data module or to an expression.	Shift+Right arrow
Expand or collapse the data tray.	Enter
View columns in the data tray.	Right and left arrow keys, or tab
View rows in the data tray.	Up and down arrow keys
Increase or decrease the number of rows that you view in the data tray.	Up and down arrow keys
Copy a selected item from the metadata tree or slots view.	Ctrl+C
Paste a copied metadata tree or slot item into a new slot position. Tab to the desired insertion point: <ul style="list-style-type: none">  adds the copied item before Opening Inventory.  replaces Opening Inventory with the copied item.  adds the copied item after Opening Inventory. 	Ctrl+V

The following list provides examples of actions in the modeling interface, and the keyboard shortcuts to perform these actions.

- Add tables to a data module
In the **Selected sources** panel, select one or more tables, and press the Shift+Right arrow keys to add the tables to the **Data module** panel.
- Use the context menu in the **Data module** panel
Press the Shift+F10 shortcut to open the context menu for a module, a table, or a column. Use the up and down arrow keys to navigate between the menu options, and the Enter key to select an option. The Escape key closes the context menu without selecting any options.
- Create a custom calculation
Select a column in the **Data module** panel, and press the Shift+Right arrow shortcut to add the column name to the expression in the expression editor. To add a function to your expression, type the first letter of the function. In the drop-down list that is displayed, navigate to the function that you need to use, and press the Enter key.

Keyboard navigation in IBM® Cognos LifeCycle Manager

To navigate the Cognos LifeCycle Manager user interface, use the standard navigation keys and some additional shortcuts that are provided in the following table. Please note that the mobile keyboard shortcuts are not applicable to Cognos LifeCycle Manager.

Table 3. Keyboard shortcuts in Cognos LifeCycle Manager

Action	Desktop keyboard shortcut
Go to the Cognos LifeCycle Manager home (IBM Cognos LifeCycle Manager text in the user interface).	Ctrl+Alt+h
Open slide-out panels, drill down comparison results.	Enter
Close slide-out panels.	Escape

Enabling accessibility when subscribing and scheduling



If you want to subscribe to a report and get accessible saved output, you must enable accessibility support in the report's properties. Similarly, if you want to schedule an accessible report to run and to save output that's accessible, you set the report's properties to enable accessibility features. Users of accessibility features can then consume the saved output for that report.

About this task

Before you subscribe to a report or schedule a report, enable accessibility support in the report's properties.

If you change the report properties to enable accessibility support, report outputs are accessible for all consumers of that report, regardless of their user preference settings.

Procedure

1. For a report in a content list, tap  and then tap .
2. On the properties slide-out, tap the **Report** tab.
3. Tap **Report options**.
4. From the drop-down list for the **Enable accessibility support** option, select **True**. With accessibility support enabled, saved output for the report includes accessibility features.

IBM and accessibility

IBM is committed to accessibility. Accessibility features that follow compliance guidelines are included in Cognos Analytics to benefit users with disabilities.

Cognos Analytics uses the latest W3C Standard, WAI-ARIA 1.0 (<http://www.w3.org/TR/wai-aria/>) to ensure compliance with the United States Access Board Section 508 Standards and the Web Content Accessibility Guidelines (WCAG) 2.0

The Cognos Analytics online product documentation in IBM Knowledge Center is enabled for accessibility. For more information, see [Accessibility features for IBM Knowledge Center](#)

For more information about the commitment that IBM has to accessibility, see [IBM Accessibility](#) .

In addition to standard IBM help desk and support websites, IBM has established a TTY telephone service for use by deaf or hard of hearing customers to access sales and support services:

TTY service
800-IBM-3383 (800-426-3383)
(within North America)

Chapter 2. Accessible report authoring

Creating accessible reports ensures access of information to all users, with all levels of ability. To support the use of accessibility features, report authors can add alternate and summary text for images, charts, and tables, define table and other headings, associate labels with prompt controls, and add conditional layouts.

When you build accessibility into a report, you can test and check the output by using a run option to include accessibility features. This run option is handy for authors that don't have their user preference set to turn on accessibility features. For more information, see "Showing accessible report output in IBM Cognos Analytics - Reporting" on page 12.

If you want to schedule an accessible report to run and save output that's accessible, you set the report's properties to enable accessibility features. A user of accessibility features can then consume the saved output for that report.

Considerations to improve report accessibility

In addition to accessible formats that you can build into your reports to support accessibility, you can also follow some best practices to help ensure your content is widely useable.

The following are some design considerations for creating accessible reports:

- Avoid using visual cues, such as bold text or color, to convey important information.
- Avoid using pictures and OLE Objects in PDF documents, as these items are tagged as artifacts and ignored by the screen reader.
- Avoid using conditional formatting to convey important information.
- When selecting color palettes for report objects, choose patterns or shades of gray.
- Ensure that there is a table corresponding to chart types that are rendered as images because the screen reader ignores this information.
- Deliver reports in HTML format, which is the most supported output format for most screen readers.
- Ensure that the report has a title.
- Gain an understanding for screen reading technology.
- Avoid spelling and grammatical errors, as they cause the screen reading software to misinterpret the information.
- Avoid using features like calendar boxes and up and down selections on time controls. Instead use prompts such as check boxes, radio buttons, combo boxes, and multi-select boxes.
- Ensure that the target application is accessible when using embedded Web applications or drill-through paths.
- Avoid using large, complex list or crosstab reports.
Displaying the information in multiple simple lists or crosstab reports is more manageable for assistive technology users.
- Add alternate text to images, charts, and other visual objects so that screen readers can provide context for them.

- When using tables, add summary text to provide context for the table content. If the top cells in a table behave as headers, designate these cells as headers so that screen readers can identify the relationships.
- Avoid using range prompt controls that contain radio buttons.

Figure 3. Range prompt with From and To sections

When users tab to a radio group, the focus should be in the selected radio button. In the case of range prompts, for both the From and To sections, the radio button groups start first in the tab order. However, the secondary input elements, which can be text boxes, drop-down lists, date edit boxes, and so on, are located before the selected radio button in the tab order. Instead of going to the selected radio button, the focus goes to the secondary input element. As a result, users using a screen reader do not know that the input element is one of two options.

Alternate text and summary text

To make reports accessible, you can add alternate text or summary text to objects such as images, charts, and tables. When a screen reader encounters one of these objects, it reads the text that you added to the object.

Add Alternate Text to Images and Charts

You can add alternate text for images, maps, and charts to make your reports accessible. When a screen reader encounters one of these objects, it reads the alternate text that you added to the object.



You can add translations for the text to support users in multiple languages. When users run a report, IBM Cognos Analytics uses the alternate text in the appropriate language.


If you use images only for visual spacing in your report, leave the **Alternate text** property empty.

Before you begin

For the report output to contain the alternate text, you must enable the accessibility features for the report. For more information, see “Showing accessible report output in IBM Cognos Analytics - Reporting” on page 12.

Procedure

1. Select the image or chart object.
2. Click the **Show properties** icon , and in the **Properties** pane, click the **Select ancestor** icon  and select the **Image, Map**, or chart object.

3. Double-click the **Alternate text** property.
4. Select **Specified text** and click the ellipsis button.
5. In the **Default text** box, type a description for the object, and click the add icon .
6. In the **Languages** dialog box, select the languages that apply to your text.
7. Double-click a language and type the translation of the text for each language and click **OK**.

Add Summary Text to Tables

You can provide summary text for crosstabs, lists, repeater tables, and table objects. This text provides context for the entire object to make your reports accessible. When a screen reader encounters one of these objects in HTML report outputs, it reads the description that you added to the object.

The table summary is not displayed in visual Web browsers. Only screen readers and speech browsers use the summary text. The summary text is usually read immediately before the table caption.



You can add translations for the text to support users in multiple languages. When users run a report, IBM Cognos Analytics uses the summary text in the appropriate language.

If you use tables for report layout, leave the summary empty to indicate to screen readers that the table is used exclusively for visual layout and not for presenting tabular data.


Before you begin

For the report output to contain the summary text, you must enable the accessibility features for the report. For more information, see “Showing accessible report output in IBM Cognos Analytics - Reporting” on page 12.

Procedure

1. Select the crosstab, list, or table.
2. Click the **Show properties** icon , and in the **Properties** pane, click the **Select ancestor** icon  and select the **Crosstab**, **List**, **Repeater Table**, or **Table** object.

Tip: You can also click the container selector (three orange dots) of the container to select it.

3. Double-click the **Summary text** property.
4. Select **Specified text** and click the ellipsis button.
5. In the **Default text** box, type a description for the object, and click the add icon .
6. In the **Languages** dialog box, select the languages that apply to your text.
7. Double-click a language and type the translation of the text for each language and click **OK**.


Designate Cells as Headers in Tables

You can specify whether specific table cells are table headers. This allows screen readers and speech browsers to identify the relationships between the cells in your tables.

Before you begin

For the report output to contain the cell headers, you must enable the accessibility features for the report. For more information, see “Showing accessible report output in IBM Cognos Analytics - Reporting” on page 12.

Procedure

1. Select the table cells.
2. Click the **Show properties** icon , and in the **Properties** pane, set the **Table header** property to **Yes**.

Headings and emphasis

You can apply certain global classes to text objects to make the text easier to read for visually impaired users.

The following global classes are available to improve text readability for headings and blocks of text:

- Heading 1 through 6

Tip: In HTML output, these classes are converted to <h1> to <h6> tags.

- Emphasize Text and Strong Text

Tip: In HTML output, these classes are converted to and tags.

You apply one of these global classes to text by accessing the **Classes** property of the text and choosing the class that you want to apply.

Prompt control labels

You can associate labels to prompt controls to make the prompts accessible.

There are several methods that you can use to associate a label to a prompt control:

- Associate a text item to the prompt control.
- Insert the prompt control in a field set and use the caption of the field set to specify the label.
- Use HTML items to define a field set.

When a text item is associated to a prompt control, the text is read by screen readers when users tab to the control. When a prompt control is inserted in a field set, screen readers read the label of the field set when the focus moves to any input element within the field set.


Associating a text item to a prompt control in IBM Cognos Analytics - Reporting

Associate a text item to a prompt control to create a label for the prompt.

Before you begin

You must specify a name for the prompt control before you can associate a text item to the control.




Procedure

1. To specify a name for the prompt control, select the control, click the **Show properties** icon , and in the Properties pane, type the name in the **Name** property.
2. Create a text item or select an existing text item.
3. In the Properties pane, in the **Label for** property, type the name of the prompt control.

Associating labels with prompt controls using field sets

You can associate labels with prompt controls using field sets.



Procedure

1. Click the **Toolbox** icon  and drag **Field set** to the report.
2. Double-click the caption of the field set and type the text that you want to appear as the prompt control label.
3. Click the **Toolbox** icon and drag a prompt control to the field set.
4. Optional: To hide the field set border so that only the prompt control border appears in the prompt page, set the border to none.
 - a. Select the field set.
 - b. Click the **Show properties** icon , and in the **Properties** pane, click the **Border** property.
 - c. In the **Style** box, click **None**.
 - d. Under **Preview**, click the apply all borders icon  and click **OK**.

Associating labels with prompt controls using HTML items

Instead of using the field set object, you can associate labels with prompt controls using HTML items. You use the HTML items to create the field sets.

Procedure

1. Click the **Toolbox** icon  and drag **HTML item** to the left of the prompt.
2. Click the HTML item.
3. Click the **Show properties** icon , and in the **Properties** pane, double-click the **HTML** property.
4. In the **HTML** window, type the following text and click **OK**.

```
<fieldset style="border:0;">
<legend>Prompt label</legend>
```

5. Click the **Toolbox** icon and drag **HTML item** to the right of the prompt.
6. Click the HTML item.
7. In the **Properties** pane, double-click the **HTML** property.
8. In the **HTML** window, type the following text and click **OK**.
</fieldset>


Showing accessible report output in IBM Cognos Analytics - Reporting

You can show accessibility features in report output when you run a report from within Cognos Analytics - Reporting.

About this task

When you enable accessible report output in Cognos Analytics - Reporting, you can test accessible features that were added to a report.

Procedure

1. In Cognos Analytics - Reporting, click the **Run options** icon .
2. Click **Show run options**.
3. Select the **Include accessibility features** check box.



Example - Conditionally Show a List Below a Chart for an Accessible Report






Charts are rendered as images in report outputs, such as HTML and PDF. As a result, they are difficult to navigate for visually impaired users and screen readers cannot convey the information shown in charts. To make your reports accessible, you can add a conditional layout that shows list or crosstab equivalents of the chart when the accessibility features are enabled for the report output.

To set up this conditional layout, use a conditional block that contains the list or crosstab and the report function `IsAccessible`. The `IsAccessible` function is a Boolean function that returns `Yes` (or `true`) when the accessibility features are enabled for the report output and `No` (or `false`) when the accessibility features are not enabled.

Therefore, the list or crosstab becomes conditional and appears only when the accessible report output option is enabled. In addition, you should add alternate text for the chart object so that screen readers can let users know that an accessible list or crosstab follows.

Procedure

1. Open IBM Cognos Analytics - Reporting with the sample GO Sales (query) package.
2. Create a new report with a pie chart.
3. Add data items to the chart. Click the Data icon , and from the **Source** tab , do the following:
 - Expand **Sales (query)** and **Sales** and then insert **Quantity** in the **Default measure** area.
 - Expand **Products** and insert **Product line** in the **Series (pie slices)** area.

4. Run the report to see your chart.
5. Add alternate text for the pie chart:
 - Select the chart, click the **Properties** icon , and in the **Properties** pane, double-click the **Alternate text** property.
 - Select **Specified text** and click the ellipsis button.
 - Type default text for the chart, such as
A pie chart shows the quantity of sales by product line as a percentage of total sales. An equivalent list is below.
If you want to add the alternate text in additional languages, click the add button .
6. Click the **Toolbox** icon , and from the **Advanced** group, insert a **Conditional blocks** object below the chart.
7. Select the conditional block and, from the **Properties** pane, double-click the **Block variable** property.
8. Under **Variable**, select **New boolean variable** and type a name for the variable, such as `accessibility_condition`.
9. In the **Report expression** dialog box, specify the expression that defines the variable:
 - From the **Functions** tab , expand **Report Functions** and insert the `IsAccessible` function to the **Expression Definition** box.
 - Type a closing bracket at the end of the function `IsAccessible ()` and click **OK**.
10. Select the conditional block, and in the **Properties** pane, change the **Current block** property to **Yes**.
11. Click the **Toolbox** icon, and add a list inside the conditional block.
12. Add the same data items from the chart to the list. Click the **Data** icon, and from the **Source** tab, do the following:
 - Expand **Sales (query)** and **Products** and insert **Product line** in the list.
 - Expand **Sales** and insert **Quantity** as the second column in the list.
13. Add summary text for the list:
 - Select the list, and in the **Properties** pane, double-click the **Summary text** property.
 - Select **Specified text** and click the ellipsis button.
 - Type default text for the list, such as
The first column lists all product lines and the second column lists sales quantities.
If you want to add the alternate text in additional languages, click the add button.
14. Select the conditional block, and in the **Properties** pane, change the **Current Block** property to **No**.
15. Click the **Run options** icon , click **Show run options**, and select the **Include accessibility features** check box.
16. Run the report.

Results

Because we just chose to include the accessibility features, you see both the chart and the list. Also, when a screen reader encounters the image for the chart, it reads the alternate text that you added.

If you clear the **Include accessibility features** check box and run the report again, you see only the chart.

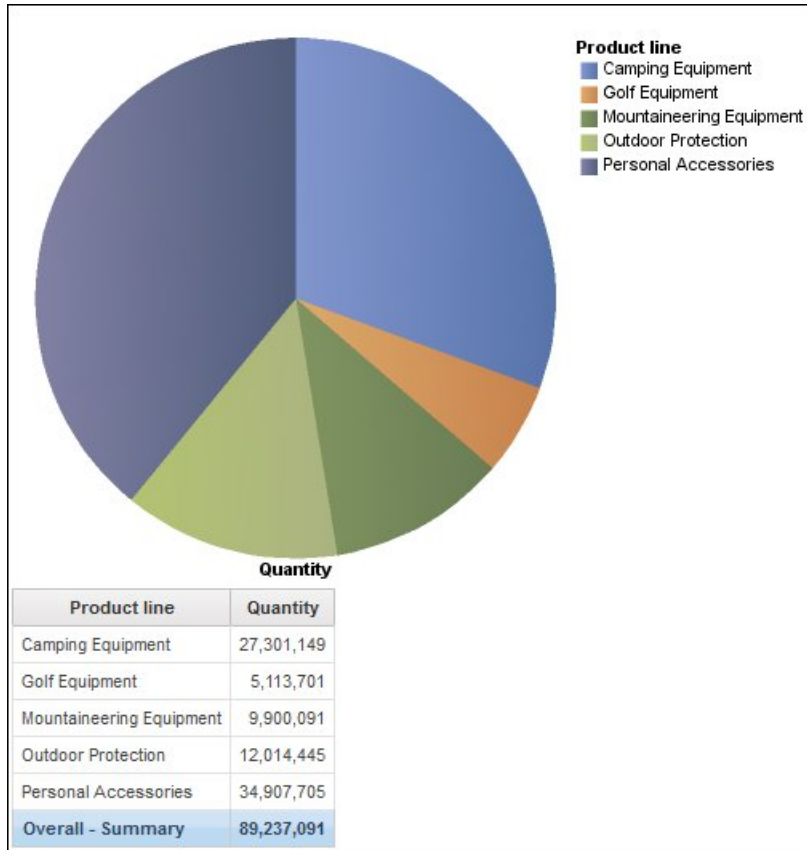


Figure 4. Report showing both a pie chart and a list

Appendix. About this guide

This document is intended for use with IBM Cognos Analytics. Cognos Analytics integrates reporting, modeling, analysis, dashboards, stories, metrics, and event management so you can understand your organization's data, and make effective business decisions.

To find product documentation on the web, including all translated documentation, access IBM Knowledge Center (<http://www.ibm.com/support/knowledgecenter>).

Forward-looking statements

This documentation describes the current functionality of the product. References to items that are not currently available may be included. No implication of any future availability should be inferred. Any such references are not a commitment, promise, or legal obligation to deliver any material, code, or functionality. The development, release, and timing of features or functionality remain at the sole discretion of IBM.

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