Lab Center – Hands-on Lab

Session 3892

Turning Data into Insight:

Using Cognitive Capabilities to Uncover Deeper Insights

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Table of Contents

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About this Tutorial

Explore is a flexible workspace intended for ad-hoc data discovery and exploration. You can explore your data or investigate visualization from a dashboard or story. As you work, contextual recommendations and advanced analytics insights will be surfaced in a subtle way, so as not to intrude. Take advantage of advanced analytics normally available only in data science tools. You won't be bothered with positioning widgets or fancy formatting. Just work away, and when you want to present your insights, simply copy your visualizations to a story or dashboard.

This workshop introduces you to some of the newest capabilities included in IBM Cognos Analytics, Data Exploration which utilizes augmented intelligence to accelerate the time to value in finding insights hidden deep within your data.

In this workshop, you will experience the following capabilities in IBM Cognos Analytics:

- Upload data sources to Explore
- Discover relationships in your data
- Surface Insights to begin your analysis
- Identify patterns and key drivers

Get Started with your Cognos Analytics Tutorial

This tutorial is meant to be used with a virtual machine designed to showcase IBM Cognos Analytics

__1.   As your environment is setup, you will see a welcome screen. It may take a few minutes to activate it. Your environment is ready to use once you are able to **close the browser tab** of the welcome page using the **X button** on the browser tab.

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__2.   You can use the controls at the top of the screen to adjust the resolution. **Click the Fit to Window button** to fit the screen to the size of the browser. Also, it is recommended to set the window size of the browser to full screen using the Change Resolution setting. Once done, you may close the panel.
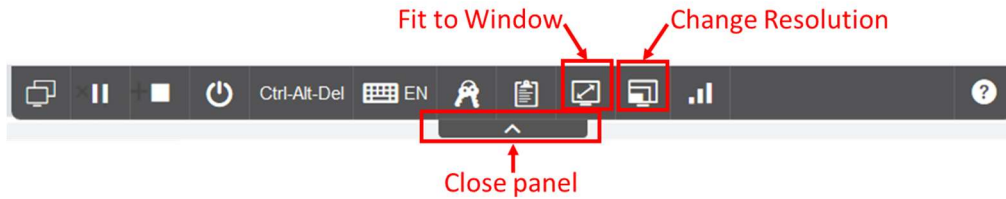
Start Cognos Analytics for your Tutorial

__1.   Once the Welcome browser tab is closed, the Cognos login screen may be open. If not, from the desktop, **open Chrome**. From the **Bookmarks Toolba**r, **open** the **Cognos Analytics bookmark** to launch IBM Cognos Analytics and bring up the login page.
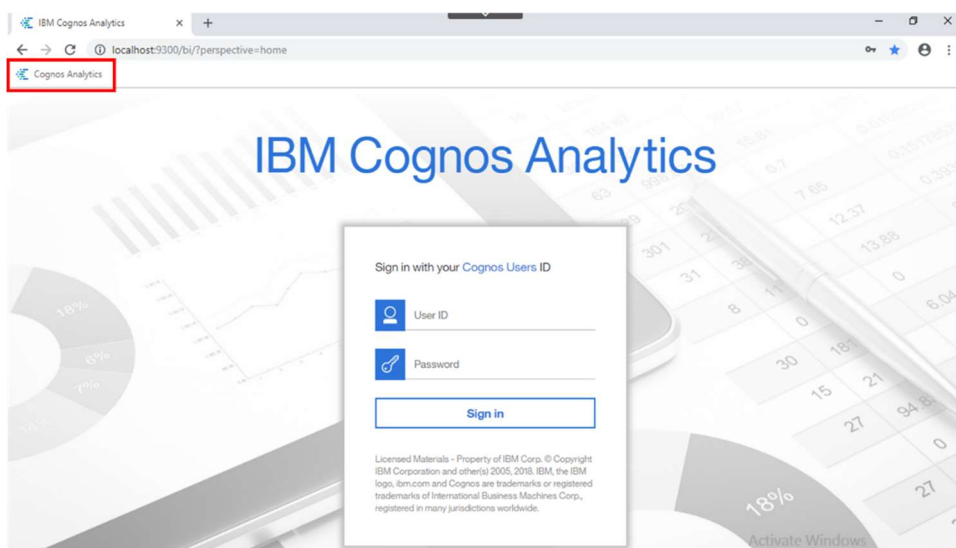
__2.   Enter the sign-in credentials as follows:

- User ID: **cogadmin**

- Password: **IBMDem0s!**

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Cognos Analytics User Interface

The goal of the User Interface (UI) is to provide Users with a streamlined way to view content and activities pertinent to them.

__1.   The User Experience brings you directly into the completely redesigned Cognos Analytics User Interface (UI). All Cognos Analytics Users begin their navigation here.
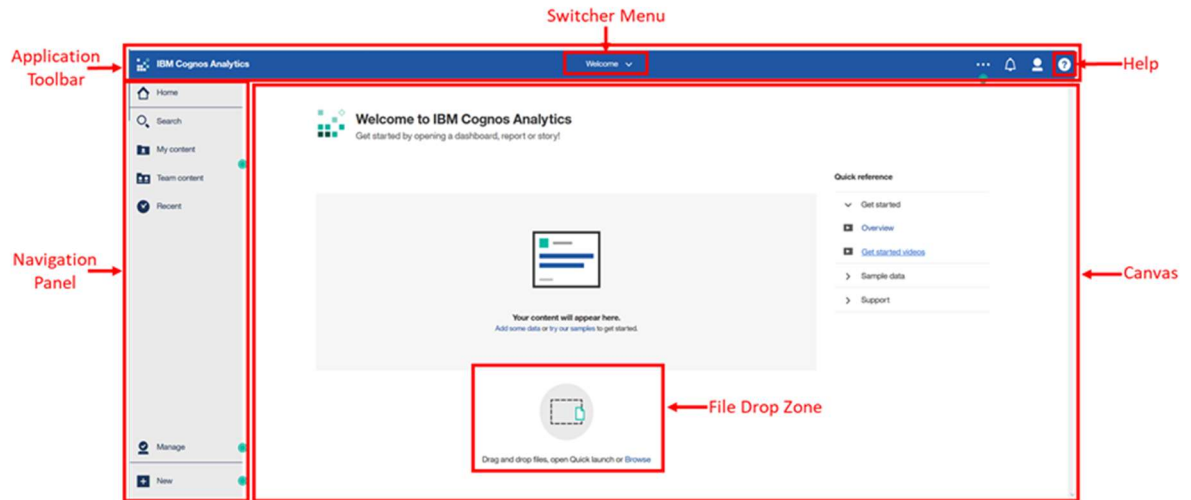
__2.   Once you begin working with content, the canvas will update with your recently used items. In your Cognos Analytics instance, you may see recent content on the canvas.

Detailed information regarding the UI capabilities are shown in Appendix A for your reference. Due to time constraints of this workshop, the Facilitator may demonstrate the UI. If so, you may skip to the next section to begin your workshop exercises.

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Business use Case for this workshop

You are a new Marketing analyst at a large Communications company. Your company has just acquired a provider named Telco that offers phone, DSL internet and Fiber optic Internet services. Telco's customers subscribe to these services and may have either phone or internet or both services. Due to the recent acquisition, there is concern that some Telco customers may cancel their services.

In an increasingly competitive environment for these services, you've been hired to find ways to reduce customer churn. To begin, you need to understand your customer base and identify which customers are most likely to churn. This will enable Sales and Marketing to create promotional programs targeted to those customers with a high propensity to churn.

You've just received an email from the Marketing Director asking for your assistance in analyzing data from the newly acquired Telco.

Steve,
We have received some data on Telco for their customer base. From previous acquisitions, we know there is risk that customers will churn due to the acquisition.

To avoid this risk and proactively market, we need to understand how their customer subscriptions were procured (e.g. direct sales? Business Partners), customer tenure, historical churn, etc. so we can identify customers with a high likelihood to churn. Marketing needs this information to send out personalized welcome packets to all Telco customers that target new promotions based on each customer's tenure, risk of churn, etc.

Please review the attached data and let's see what insights and customer profiles we can provide Marketing for this campaign.

Thanks,
Julie

Using the new Data Exploration capabilities in Cognos Analytics, you can jump start your understanding of the data and quickly uncover patterns and insights.

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Uploading external data files

The ability for Business Users to leverage their personal/external data for discovery dramatically broadens the landscape of Users who can make new data available for analysis. Users may upload an external data file and immediately begin self-service data discovery, ad hoc analysis and building dashboards.

For the first exercise, you will be using the file "Telco_customer_churn.xlsx"".
This file is located in a folder on the desktop of your Cognos Analytics instance:
Desktop>CA Workshop Data

__1. To upload a file, you may either **drag and drop** this file into the **drop zone**, or you may **click browse** in the drop zone to navigate to where the file is saved. For this workshop, we will use the **Drag and Drop** option.

__2. Open File Explorer and navigate to **Desktop>CA Workshop Data.**

__3. **Drag** the **Telco_customer_churn.xlsx** file over to the **Drop zone button** on the canvas until the blue **Quick Launch** menu appears at the bottom of the screen.
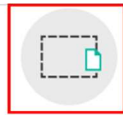
Drag and drop files, open Quick launch or Browse

__4. The Quick Launch panel will allow you to select your intent on how you wish to interact with the data you are uploading. **Drop** the file over the **Exploration** option.
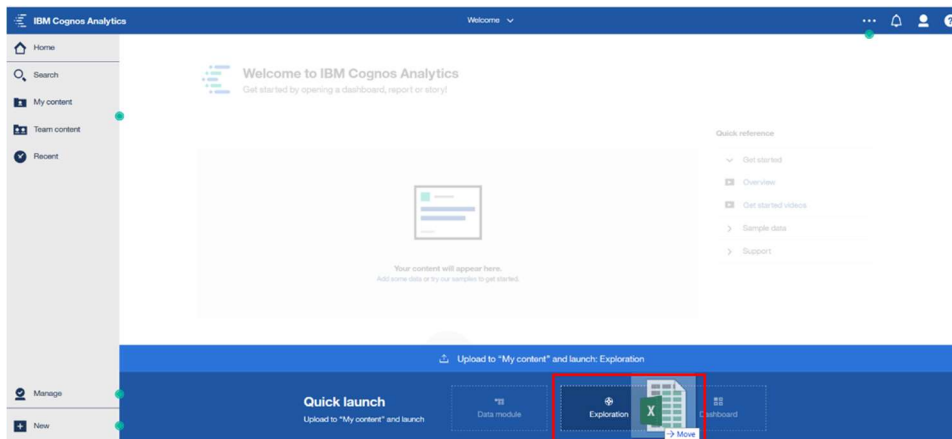
Using this method, Cognos Analytics will automatically upload the file to your
***My Content** folder and launch the Data Exploration capabilities for you to begin working with your data.*

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__5.   As the file uploads, notice that under the Switcher Menu, a series of **status bars** will be visible as the upload process reads and analyzes the data being brought in.
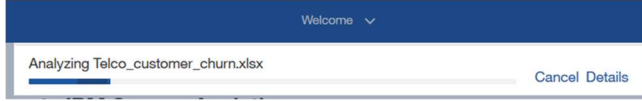
__6.   Once it completes, the status bar will update to show the successful completion before closing.

Since you selected to upload the data and launch an Exploration, the Exploration User Interface will immediately open after the upload is complete. You're now ready to start to explore your data. Cognos Analytics analyzes the data and identifies interesting items, then presents a relationship diagram as the initial view.

Relationship Diagram

The relationship diagram plots these fields based on a statistical evaluation of related items. The relationship diagram is not a picture of the data model. However, the model could be an influencing factor in the analysis. The diagram builds around an identified "Field of Interest". Related fields branch off the Field of Interest and are organized into circles, which represent concepts. Lines connect the Field of Interest to concepts and represent relationships. The thickness of the line indicates the strength of the relationship.

__1.   In this example, **Churn** is the **Field of interest**.
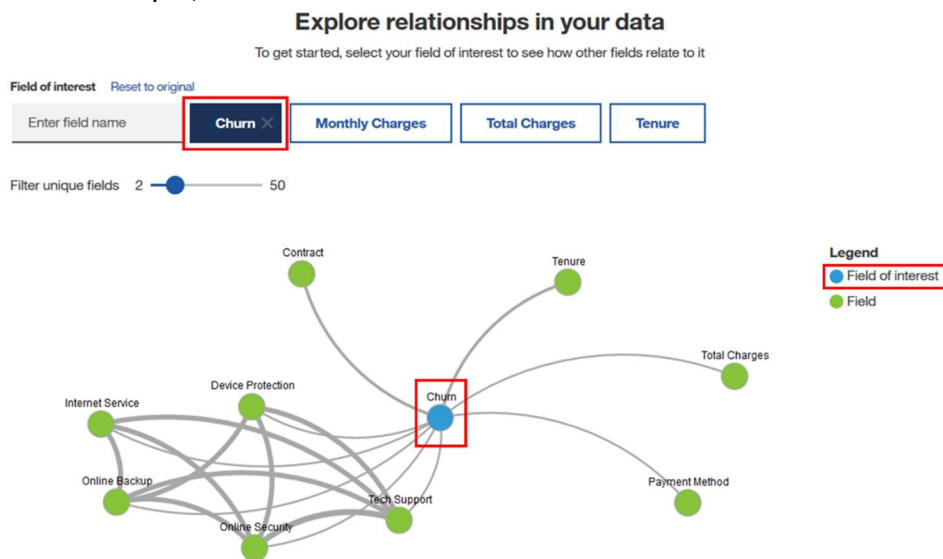
Churn is a measure field and you will see it is a blue circle in the diagram. The lines show which fields are related based on a statistical analysis, with the thickness indicating the strength of the relationship.

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__2.   At the top of the diagram, Cognos Analytics recommends additional Fields of interest for analysis. **Select the 'Tenure' field**, and the diagram re-draws with 'Tenure' as the Field of interest.
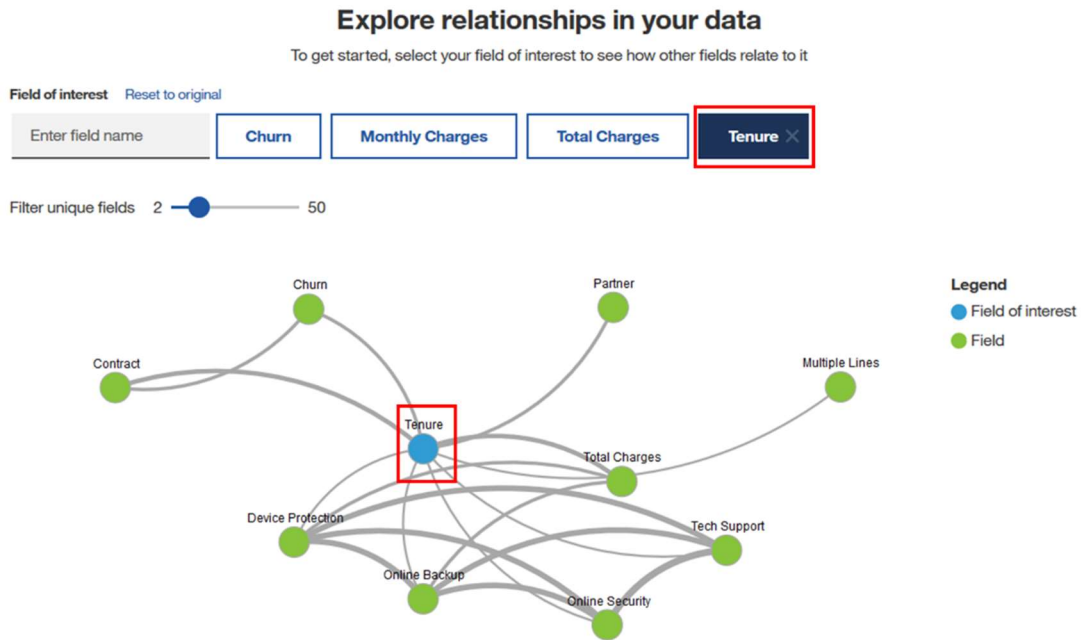
The Relationship Diagram shows interesting fields in your data and how they are related to other fields in your data. By default, 10 unique fields are shown, but you can choose to show more or less using the slider.

TECH TIP: *IF YOU DO NOT SEE A FIELD, IN THE 'ENTER FIELD NAME' AREA, YOU CAN TYPE IN A FIELD OF INTEREST TO YOU.*

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__3. **Use** the **Filter unique fields slider** to **change** the number of unique fields from '**10**' to '**20**'.
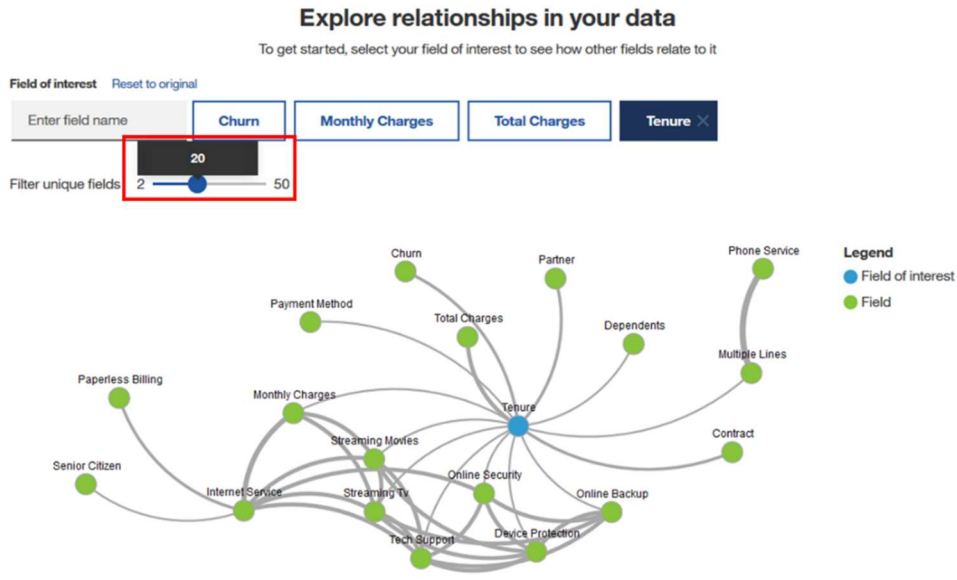
TECH TIP: *YOUR MONITOR OR SCREEN SIZE AND SCREEN RESOLUTION MAY LIMIT THE NUMBER OF FIELDS YOU WISH TO DISPLAY.*

Showing Visualization Data

As you explore your data, you may be interested in looking at the underlying data values. You can easily view all the data fields available to you from the data source panel. To see the values contained in each field, you can use the data tray. This eliminates the need for Users to toggle between multiple applications open to view data.

__1. **Click** on the **Data Tray Tab** at the bottom center of the canvas to expand the Data tray.

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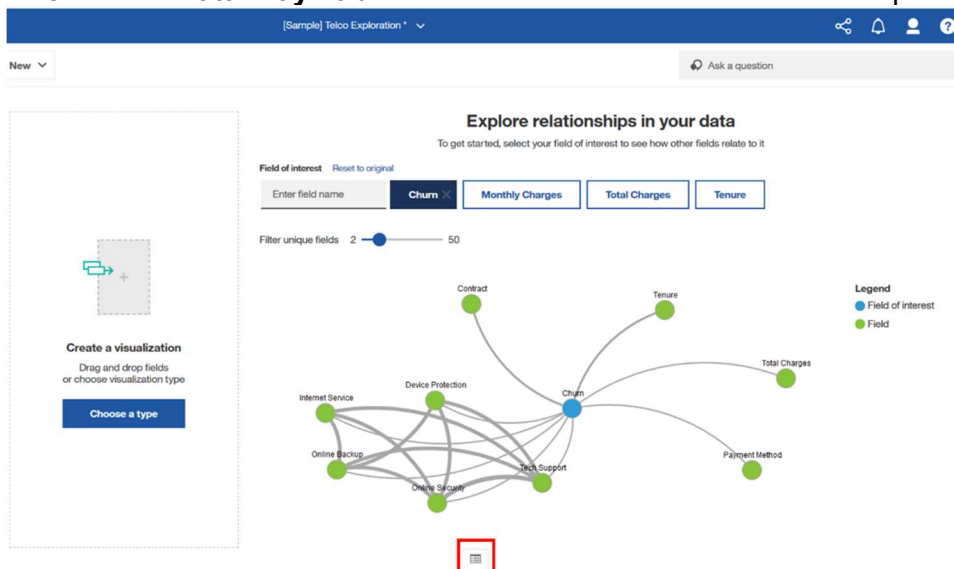
__2.   The data tray opens at the bottom of the canvas. You may **click and hold** on the **data tray tab** and drag it up or down to increase or decrease the amount of space it uses on the canvas.

__3.   Once open, you will see a preview of the data source in the data grid. Since the Exploration uses all the data fields in the uploaded file, you will see the full file referenced for the data shown. **Hover** the mouse **over** the **data grid** and use the scroll wheel on your mouse to **scroll up and down** through the values in the rows. You may also use the scrolling tool below the data tray to scroll left and right through the data columns.

In scrolling through the data, you can familiarize yourself with the data values/members such as the various contract types and payment methods. You will use the data tray again later in this workshop.

__4.   **Click** on the **Data tray tab** to collapse the data tray panel.

__5.   **Click** on the arrow next to the **Save** icon on the dashboard toolbar. **Click** "**Save As**". Navigate to **My Content**. Save as "**[Your Lastname] Telco Exploration".**

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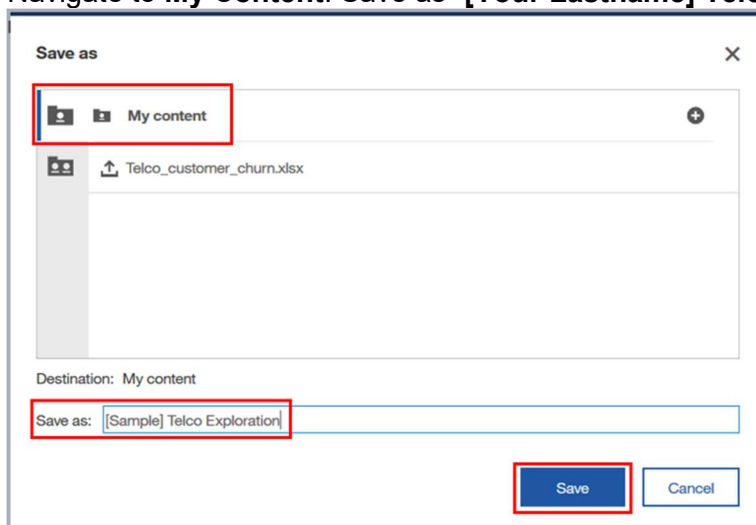
Suggested Starting Points

You can select items in the relationship diagram to generate visualizations to use as starting points for your analysis.

__1. In the diagram, **Control-Select Tenure, Contract and Partner**. As you select fields, suggested starting points using those fields will be rendered, to the left of the relationship diagram.
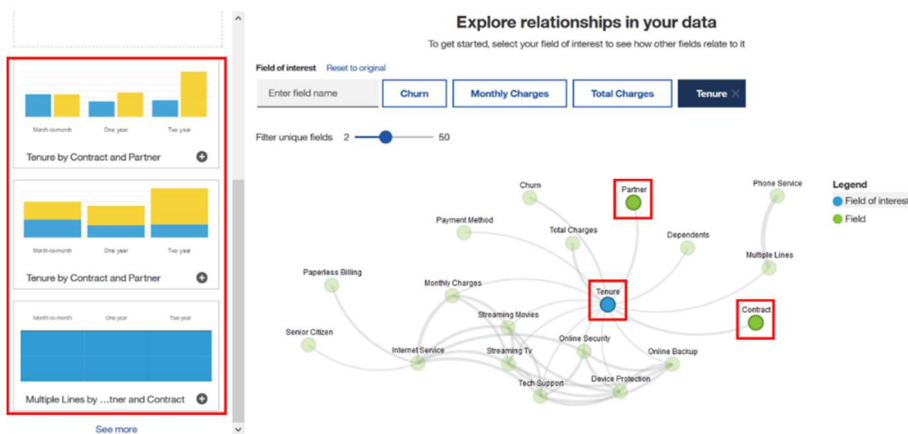
__2. **Click** the **Column chart**. suggested visualization for **Tenure by Contract and Partner** This creates a new "**card**" with the visualization in focus.

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Visualization Library

__1. From the **Exploration toolbar** above the visualization, **click** on the **down arrow** next to **Column** to open the Visualization library.

__2. The Visualization library opens with **Recommended visualizations** optimized to display the current data in focus. **Scroll** through the Visualization Library.   As you scroll down through the library, you will see that visualizations are organized into usage type. From the **Comparison** section, **select Heatmap**.

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3. Quickly you see that customers on a 2-year contract through a Partner have the greatest tenure as indicated by darkest blue area on the heat map.
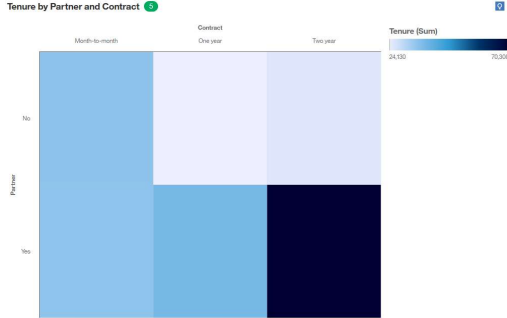
4. Currently, you are looking at the Total Sum for Tenure, but for this analysis, you want to look at average tenure. With Data Slots selected on the right, under the **Heat** field, **click** the **ellipses (…)** next to **Tenure**.

5. **Select Summarize**.

6. **Select Average.**

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__7.   The visualization will update to reflect the new aggregation. **Click** outside the Summarize List to close it.

__8.   **Hover** over the **darkest block** to see the Average value for Tenure for Partners with 2-year contracts is 58.98.
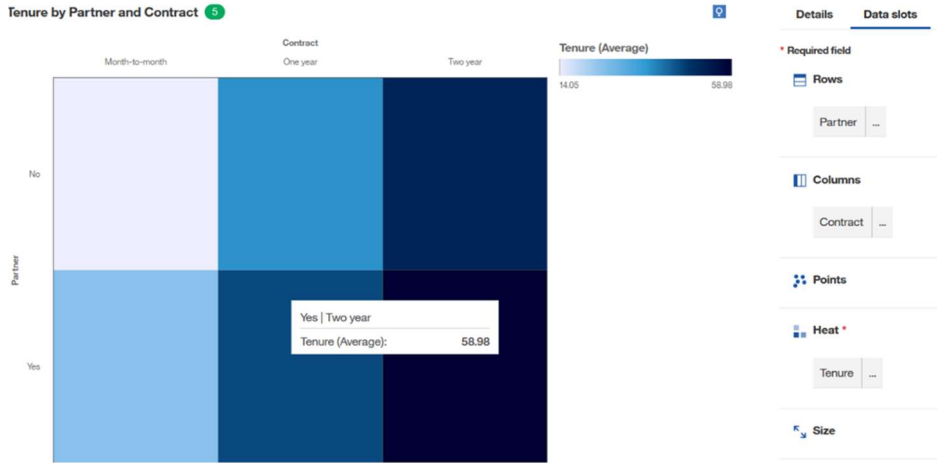
__9.   **Click Details** to the right of the chart to display additional information about the visualization.   Here you can see the average value of Tenure for Partner and Contract is 32.371. This is much lower than the 2 year contracts with partners, which was 58.98 from above.
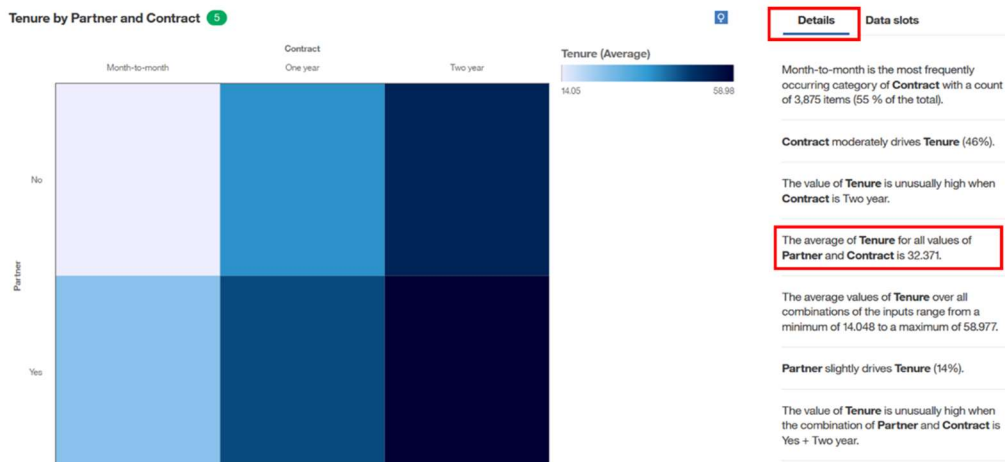
__10.   **Save** your Exploration.

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Related Visualizations

When a visualization is in focus in an exploration, the system recommends related insights beyond what you specifically requested. Based on Cognos Analytics' data analysis, these related visualizations might be of interest to you as they were found to be related to the data items currently in focus.

Related visualizations replace one of the data elements in the visualization or add another data element to create a new visualization. Related visualizations use a combination of learned user interactions, statistics and "Level of interest" to suggest useful next steps in your analysis.

___1.   From the **Exploration toolbar** above the visualization, **click** on the **down arrow** next to **Related** to open the **Related visualizations**.
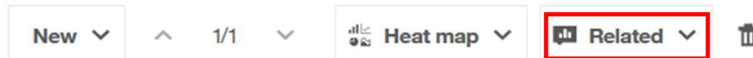
___2.   The visualizations presented contain one or more of the fields from the current card combined with other fields from your data source. Related visualizations are intended as suggested next steps in your exploration journey. **Click** on the **Show more button** to see additional **Related visualizations**.
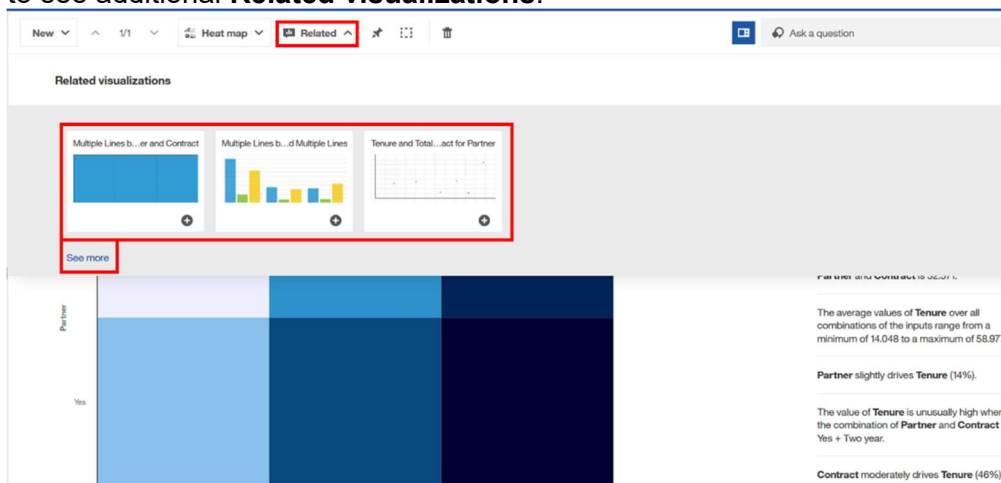
___3.   Several related visualizations are suggested for you to use for your analysis. You can save these to your Exploration content by clicking on the "+" sign below the visualization. **Click** the "**+**" under "**Tenure by Churn**".
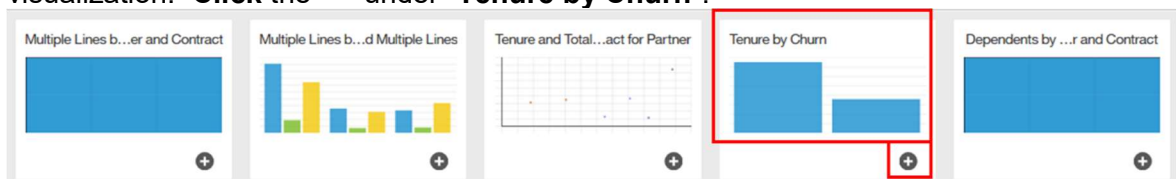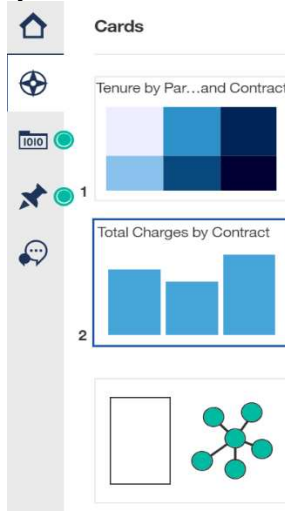
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__4.   The **red dot** next to the **Explorations icon** on the upper left of the navigation panel indicates that a new visualization card has been added to your Exploration.
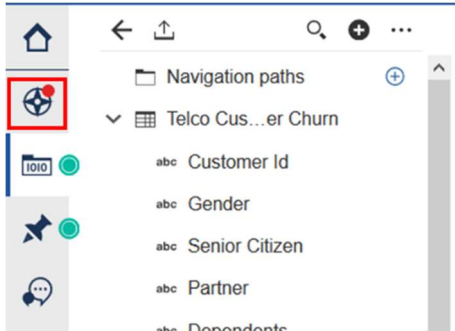
__5.   **Click** the **Explorations Icon** to open the Explorations panel and view the cards that you have created during your analysis.

__6.   **Save** the Exploration.

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The Assistant

The Cognos Analytics Assistant provides recommendations to help answer questions and provide the User with quick insights into their data. Many times, Users will have specific questions they are looking to answer but may not be as familiar with the dataset or exact data items they need to uncover the insight or answer they are seeking.

From within an Exploration or Dashboard, the User can type in natural language text to discover patterns and relationships in the data, as well as generate visualizations that can be added to an existing or new dashboard, exploration or story. Simply enter text related to the Users analytical intentions and an AI conversational agent will respond with visualizations and other information to satisfy the request.

__1.   **Click** the **Assistant icon** from the Navigation panel.

__2.   The Assisant panel opens. At the bottom of the panel, in the **Ask a question** field, **type** "**Show Tenure**".

20

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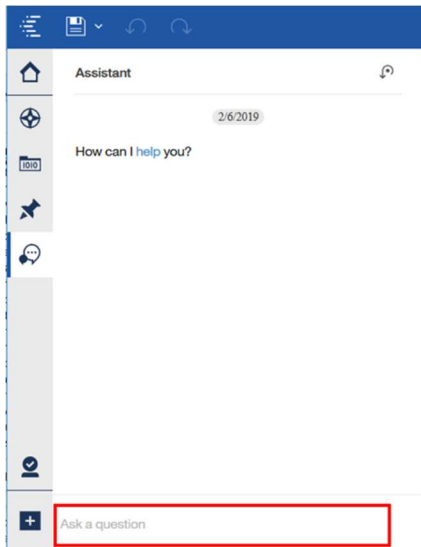
__3.   Cognos Analytics identified Tenure in the Telco_Customer_Churn.xlsx file you loaded and identified interesting fields in the data set that relate to Tenure.


TECH TIP: *IF TENURE IS IN ANY OTHER DATA SOURCE, THOSE WOULD BE LISTED AS ADDITIONAL MATCHING SOURCES. YOUR WORKSHOP ENVIRONMENT MAY HAVE MORE, FEWER, OR NO OTHER MATCHING SOURCES. THIS WILL NOT IMPACT THE EXERCISE IN THIS WORKSHOP.*

Next you would like to get a better understanding of tenure by contract and the total charges. You can ask the Assistant this question using natural language.

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__4.   In the **Ask a question** field**, type 'What is Tenure by Contract and Total Charges?'**

__5.   The Assistant will bring back a series of visualizations related to your question. **Scroll** through the results **using the arrows** until you find a visualization similar to the example below.
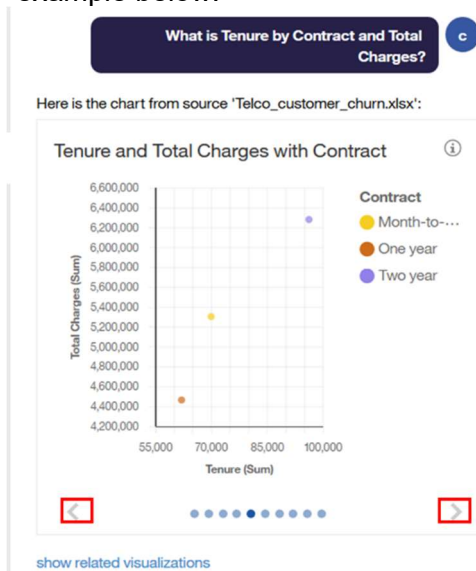

TECH TIP: YOU CAN INCREASE OR DECREASE THE WIDTH OF THE ASSISTANT PANEL AS NEEDED BY USING THE PULL BAR ON THE RIGHT EDGE OF THE PANEL.

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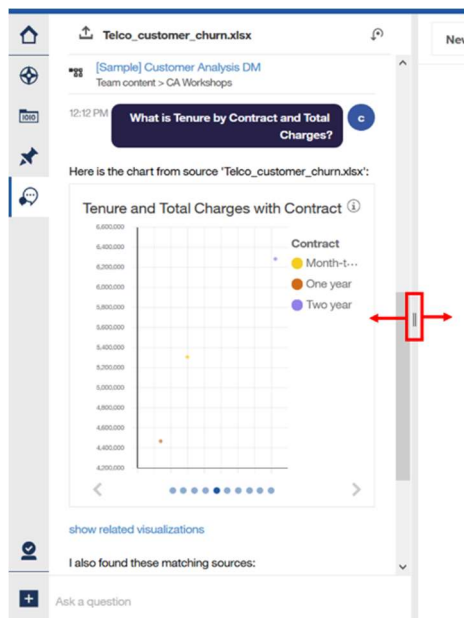
__6. **Hover** over the **Information icon** in the **upper right corner** of the visualization. Cognos Analytics provides you with additional stats on the data items from your inquiry.
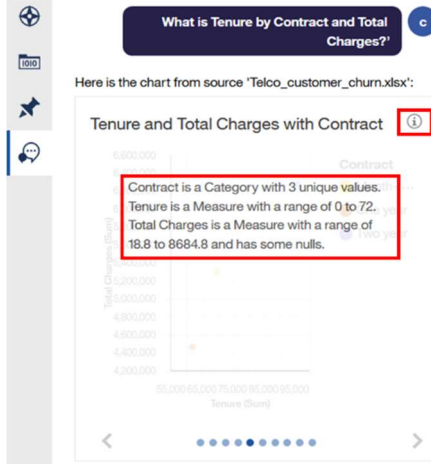
__7. **Click** on the **visualization** and **drag** it over to the canvas.
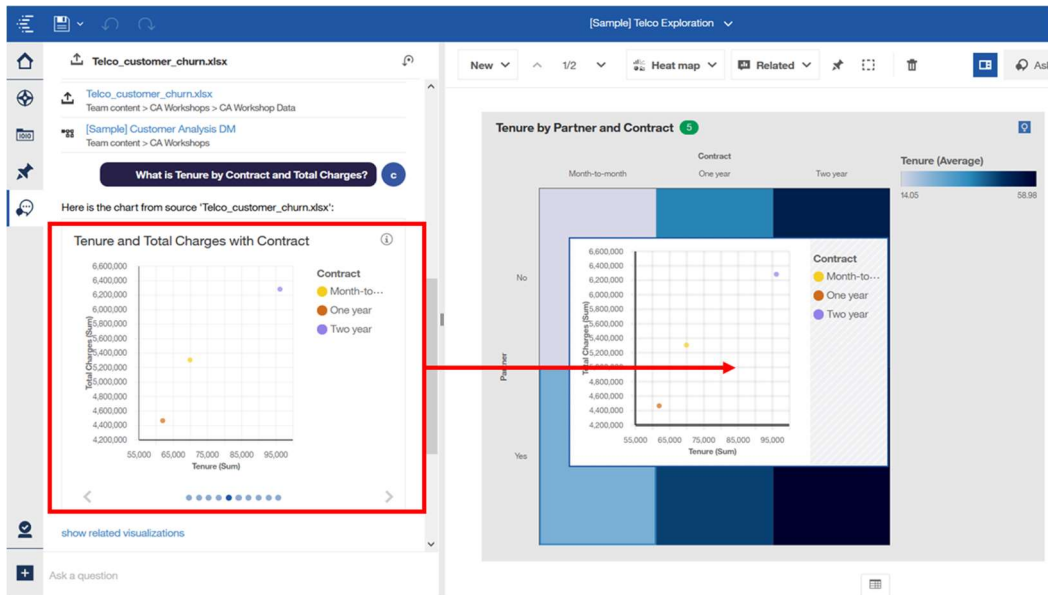

At any time during your analysis, you can work with your data and visualizations to modify them to suit your analysis. For this visualization, you see the Tenure as a sum, but you would like change this to the average as you did on the heatmap. You would also like to change the visualization type.

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___8. **Click** on the **Data Slots** tab to open.

___9. **Click** the **ellipses (…)** next to **Tenure**.

___10. **Select Summarize**, then **Select Average**.

___11. **Click** outside the Summarize list to close it.

TECH TIP: *YOU CAN ALSO CHANGE SUMMARIZATION AT THE DATA LEVEL FROM THE DATA SOURCE PANEL, RATHER THAN EACH TIME YOU USE IT IN A VISUALIZATION.*


___12. You may also change the visualization style for your Explorations. **Click** on the **down arrow** next to **Scatter** and **scroll down** to the **Comparison** section to **select Column.**
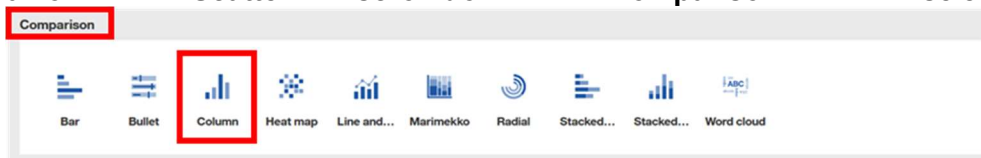
___13. To customize your visualization further, you can modify the data slot entries to refine your visualization. In the **Data slots panel**, **drag Tenure** from the **Length** slot to the **Color** slot, dropping it when the **blue horizontal line** appears indicating the **drop zone**.

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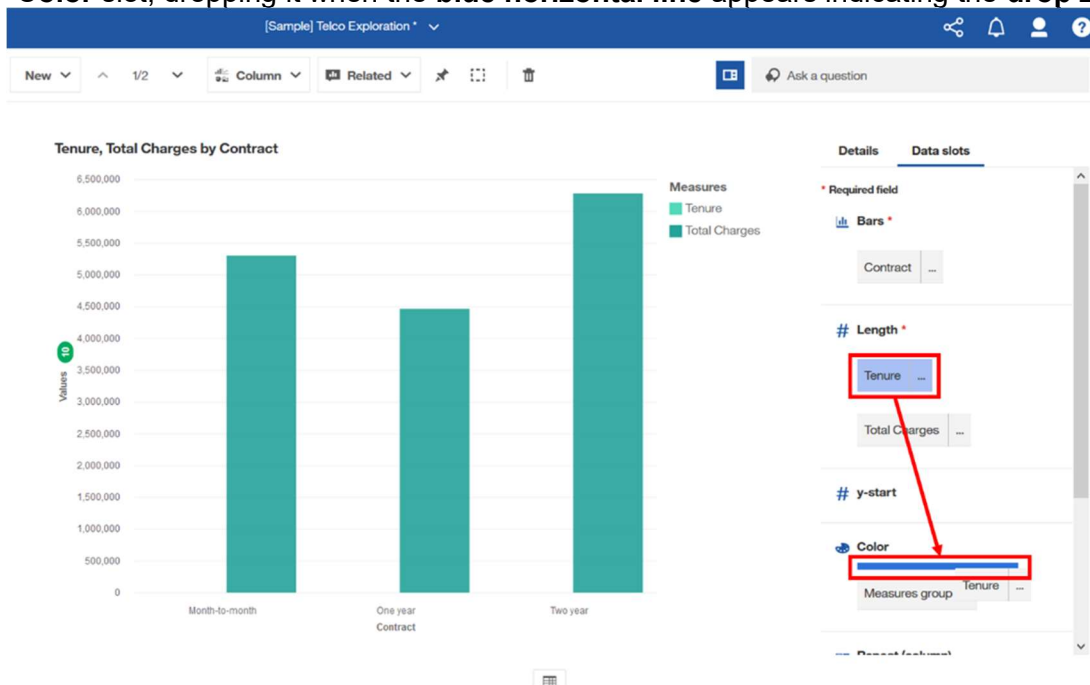
__14. Your data slots and visualization should now appear as follows:
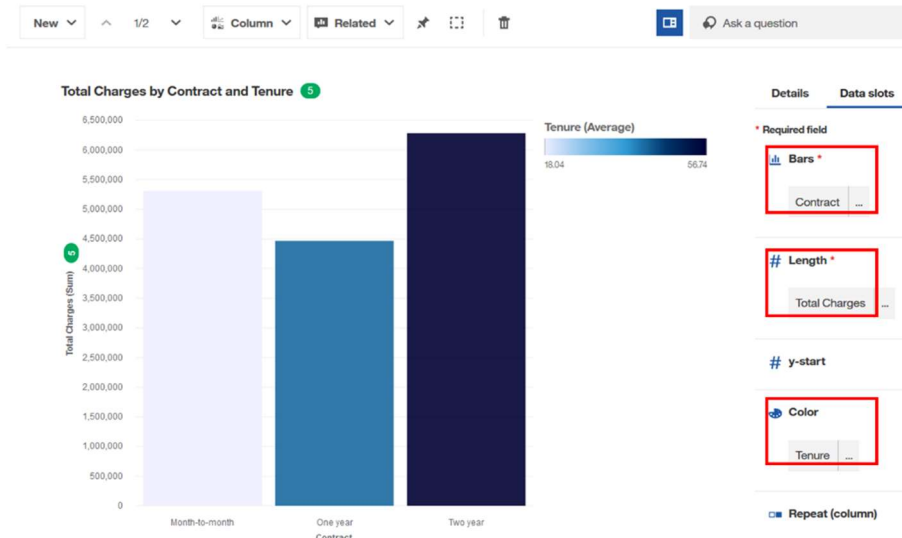
__15. **Hover** over the any of the bars to see the values.

__16. **Save** the Exploration.

With these changes, it is easy to see that Two-year contracts have the highest tenure and total changes. Also, of interest is that the one-year contracts generate less Total Charges than those that are month to month. Since Telco contracts may be sold direct to consumers or through partners, you would like to explore this further to compare performance by sales channel.


Comparing Data

You can easily compare data across two visualizations. For purposes of this workshop, you will simply create two visualizations using alternate filters so that you can easily compare the results.

__1. **Click** on the **Data sources icon** from the **Navigation panel** to open the Data Sources panel.

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2. From the Data sources panel, you can now view all the data columns in the Telco Customer Churn data file. **Click** on **Partner** and drag it over to the **Local filters** area of the chart. Drop once the data slot is **highlighted in blue** to indicate the **drop zone**.
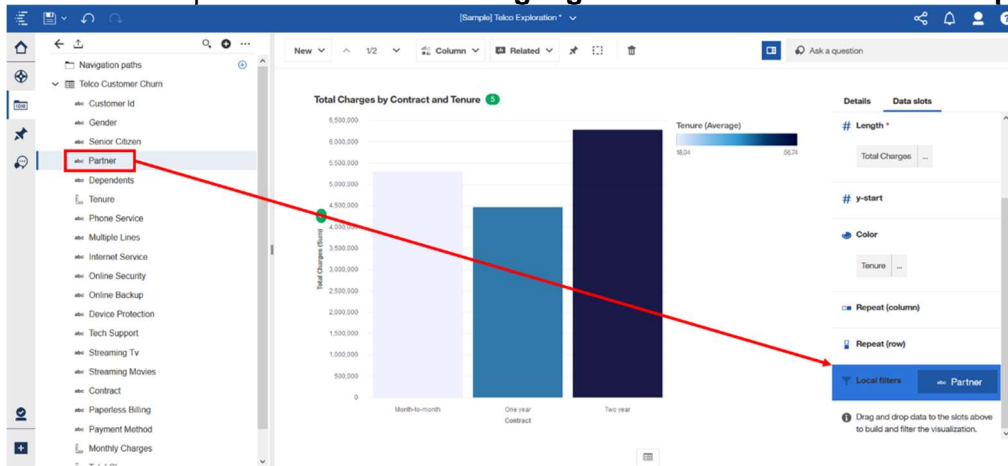
TECH TIP: DEPENDING ON YOUR SCREEN RESOLUTION, YOU MAY NEED TO SCROLL TO THE BOTTOM OF THE DATA SLOTS PANEL TO EXPOSE THE 'LOCAL FILTERS' AREA.

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3. The Partner **Filter Window** will render. For the first chart, you want to filter the chart to include only the data on for direct sales contracts, those where no partners were involved. **Click** '**No**' and '**OK**' to apply the filter.

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__4.	The Chart will update with the filter applied. Notice the Local Filters will indicate the Filter is applied showing that Partners=No. This will show the direct sales channel, where no Partners were involved.


__5.	The next chart you'll create a visualization showing the contracts from Partners. This can be done easily by duplicating this visualization and changing the filter value. **Click the Exploration icon on the Navigation panel. Select** the **current bar chart visualization** from your available cards. **Click** the **ellipses (…)** and **select** 'Duplicate'.
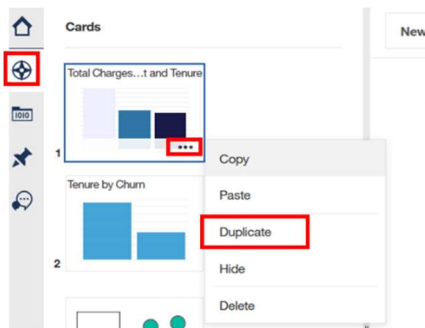
__6.	You now have a second copy of the visualization where you can modify this one to only include the Yes condition for Partners. Go to **Local filters** and **click** the **ellipses icon (…)** next to **Partner**.
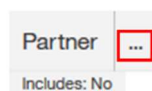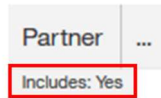

__7.	**Click Filter** to open the Filter dialog box.

__8.	**Change** the filter from 'No' to '**Yes**'.

TECH TIP: *THE INVERT BUTTON ALLOWS YOU TO QUICKLY REVERSE YOUR FILTER SELECTIONS, WHICH IS HELPFUL WITH MANY FIELDS ARE PRESENT IN THE PICKLIST.*
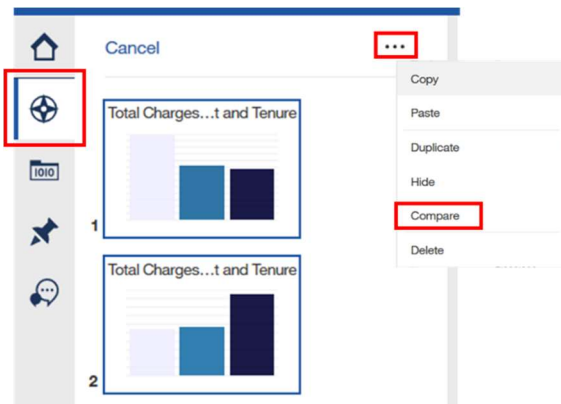

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__9.   **Click 'OK'.**

__10.   The Local Filter now indicates that Partners=Yes. This chart now renders contracts by the Partners


__11.   In the Cards panel, you now have two bar charts with opposite filters for Partners you can compare. In the Cards panel, **Multi-select** your **two bar chart cards**, then **click** the **ellipses** at the top and **select Compare**.


__12.   **Compare** will take the two visualizations and place them side by side, on a new **Compare card.** For more real estate for the Comparison, you may collapse the panel for Details and Data Slots panel. **Click the 'Hide Details and Slots'** icon at the top of the comparison.

Think 2019
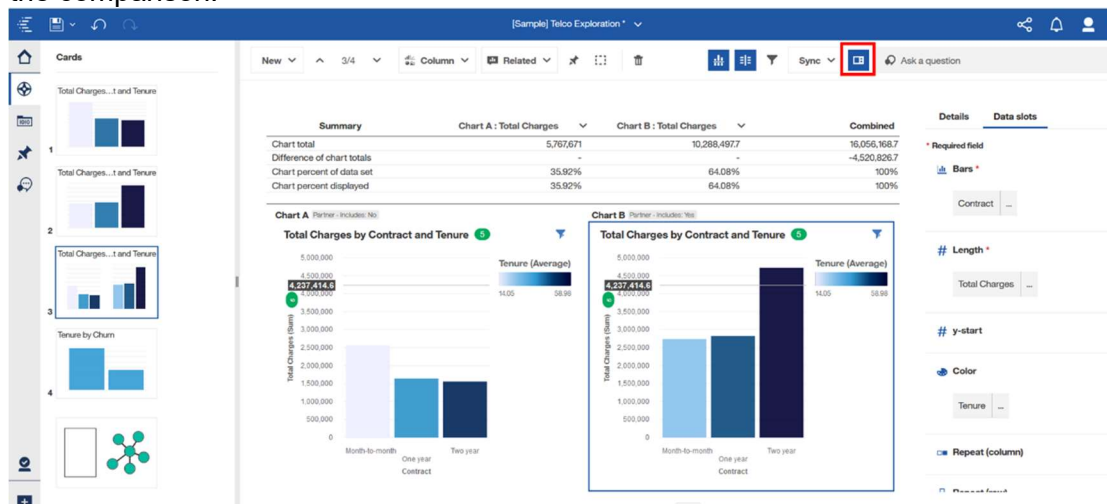
___13. In the example below, you can see that Chart A includes No Partners (Includes=No), while Chart B includes Partners (Includes=Yes). The order of the charts is set by the order you multi-selected the charts in the navigation view.
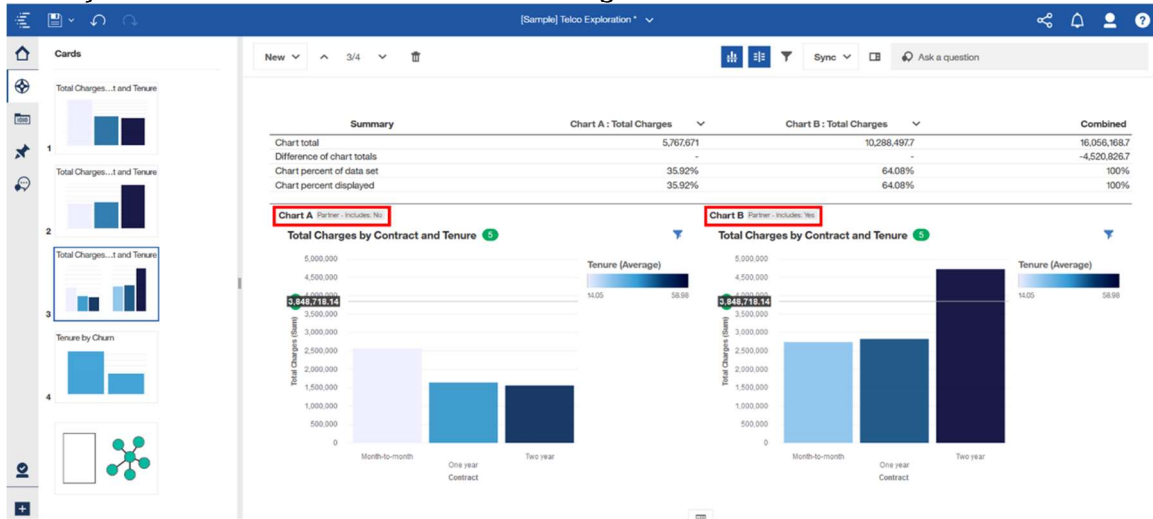

___14. There is a summary table above the comparison to show total charges for each chart and the combined values across charts. These charts include two measures (Tenure and Total Charges). The example below shows Total Charges. To compare at the values for another measure, use the down arrow next to the Chart titles: **Click** the **down arrow** to view other available measures.
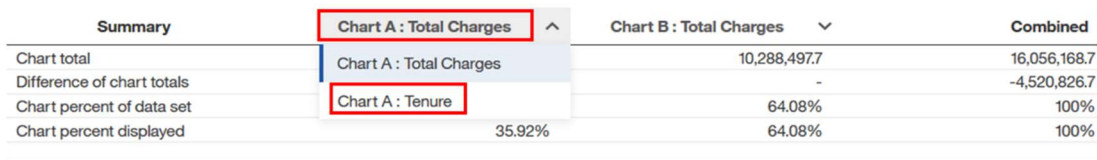

TECH TIP: YOU WOULD NEED TO SELECT THE NEW MEASURE FOR BOTH CHARTS FOR A "SIDE BY SIDE" COMPARISON. YOU ALSO MAY COMPARE DIFFERENT MEASURES ON EACH CHART. FOR EXAMPLE, YOU MAY WANT TO COMPARE REVENUE AND EXPENSE OR REVENUE AND HEADCOUNT. COGNOS ANALYTICS WILL NOT DISPLAY COMBINED VALUES ACROSS DIFFERENT MEASURES.

___15. You may turn off the Comparison Stats by using the Hide Comparison Stats button on the toolbar. **Click** on the **Hide Comparison Stats** button to view the update on the canvas. **Click** it **again** to return the comparison to the canvas.

Think 2019
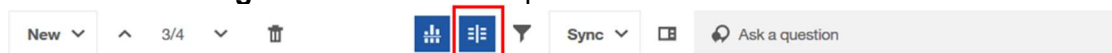
__16. Notice when you move your mouse across the charts you have a side by side comparison indicator, called the **Reference line**.
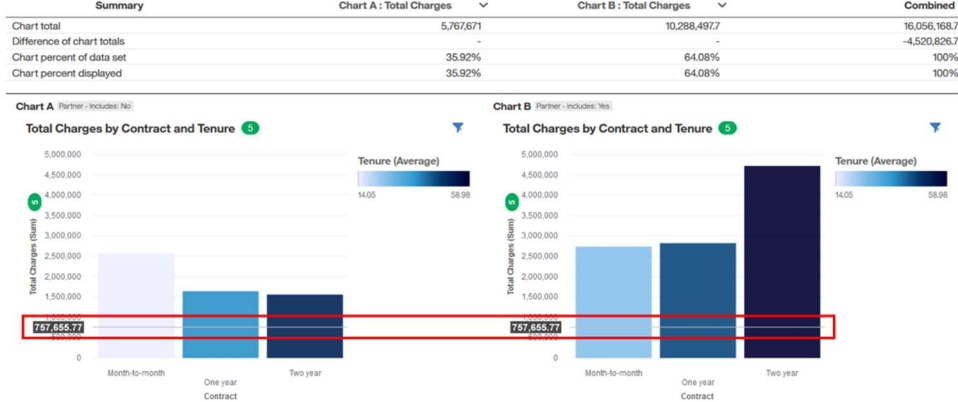

The reference line scrolls as you move your mouse over the charts. In addition to seeing the exact value at the position of the line, when the line hits the top of a column, you can see the precise value for each bar.

By default, the reference line is synced between the two charts. You can un-sync the lines based on your settings for Compare options.

__17. **Click** the down arrow next to **Sync**. Here you see the comparison options for the two charts. In addition to setting the synchronization of the Compare line, you can also un-sync the Axis Scale between the two charts. Make no changes to the settings for this exercise. **Click outside** of the Compare Options to close the options list.
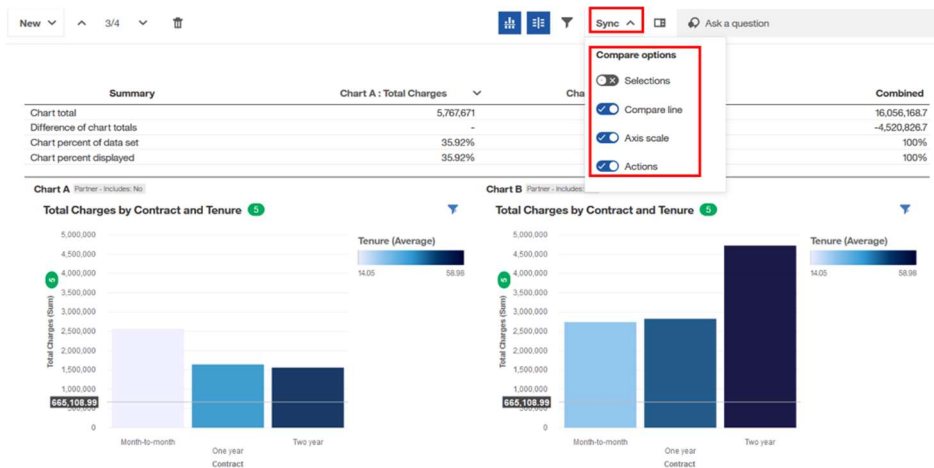
__18. The Compare line can be turned off when not needed. **Click** the **Hide Compare line** icon on the toolbar.
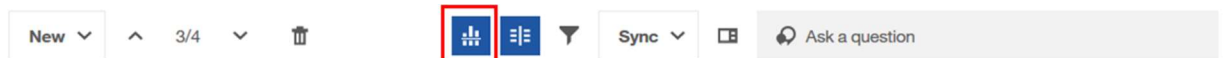
__19. **Save** your Exploration.

30

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Badges

Badges indicate that the system has identified correlations to a target in your data. Badges are displayed as green ovals with a number. The number represents the number of correlations or correlation combinations that were identified. Clicking on a badge will provide additional information on the correlations.

Badges will appear on the x- or y-axis of a chart to indicate that there are other data items correlated to the item shown on the axis. If there are relationships to projected data items not shown on an axis (e.g. shown in a legend) a badge will be shown to the right of the visualization title.

__1.   On **Chart A**, **click** on the green **badge** on the **Y-axis**. This will render identified drivers in related to measure on the y-axis, Total Charges.
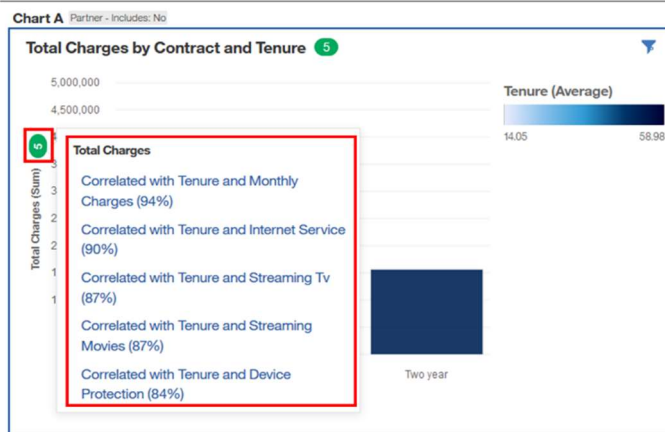
__2.   On **Chart A**, **click** on the green **badge** to the **right** of the **chart title**. Any badges for information not on an x or y axis will be shown here.


Here, you can see that Cognos Analytics Identified correlations for data items that are not part of the visualization, but in the underlying data. Users can select a correlation of interest to them to review the key driver analysis.

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Key Driver Analysis

__1.   From the list of correlations, **select** "**Correlated with Total Charges and Monthly Charges**" to understand more about how these fields are correlated.


__2.   Selecting a correlation from a badge list creates a new two-part card in your Exploration, containing a Driver Analysis visualization and a preview of the selected drivers.
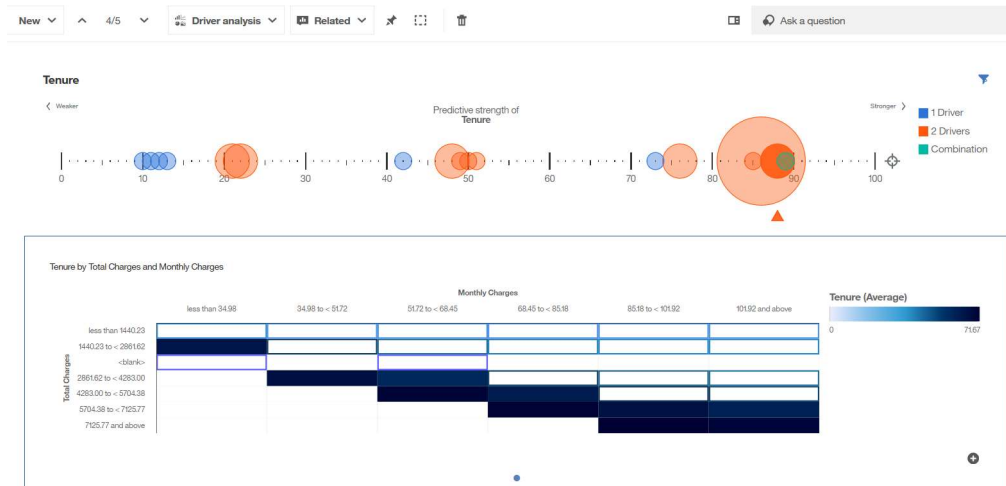

At the top of the screen, is the key driver analysis in the form of a "comet" visualization. This visualization identifies and displays key drivers that factor into the data that was identified as a target in the original visualization. Bubbles are positioned along an axis of 1 to 100 to indicate the strength of various drivers and driver combinations that influence the target (at position 100). The proximity of the bubble to the target indicates the predictive strength of the driver. The closer to the target, the stronger the predictive strength. The color of the dots indicates the number of drivers. The size of the bubble indicates the number of individual or combinations that were detected. Visualizations below the comet give a preview of the driver or driver combination that is highlighted along the axis.

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__3. Single field drivers are represented in Blue, as indicated in the legend. **Hover** over the **blue bubble furthest to the right**. This blue bubble indicates that a single field, Total Charges, is a driver of Tenure, with a strength of 73%.
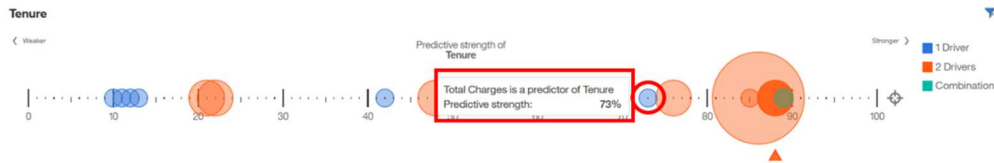
__4. Two fields in combination found to be drivers are shown in Orange. The size of the bubble indicates the number of combinations found to be drivers. **Hover over** the **largest Orange bubble** to the see the various field combinations found to be drivers.
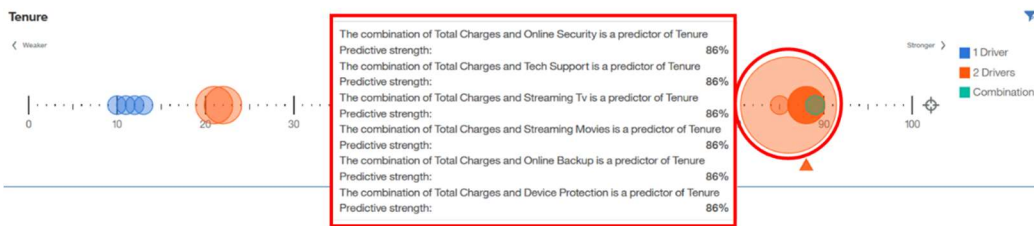

__5. **Click** the **Largest Orange Bubble.** As bubbles are selected, the visualization below the key driver analysis will update. This brings into focus the combinations found. The visualization below the key driver analysis has also updated. A visualization is available for each for the combinations identified and may be viewed using the selection bar below the visualization.
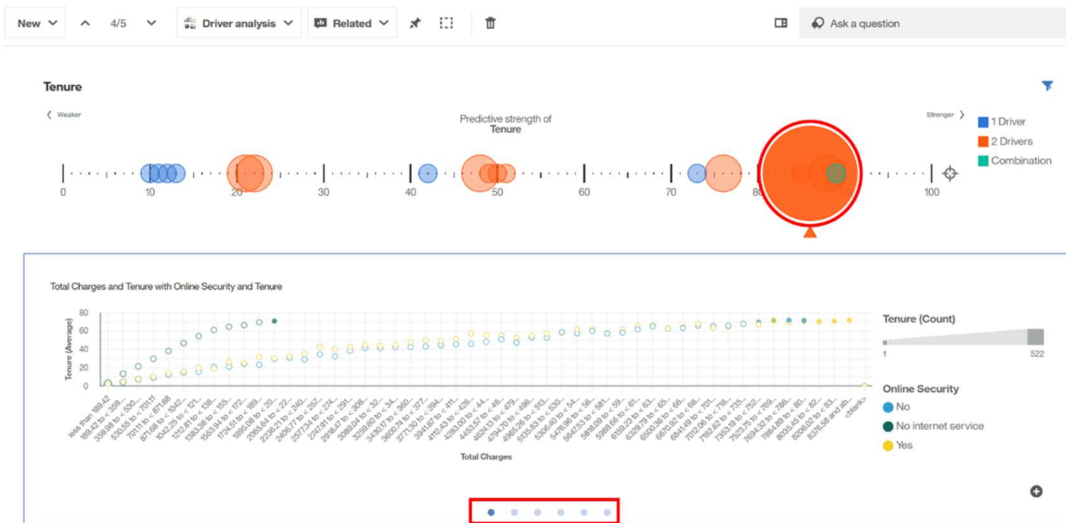
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__6.   A Green bubble is a Combination of three or more than two fields as drivers. **Hover over** the **Green bubble** (appears "under" the large orange bubble on the axis) to see the driver combinations.
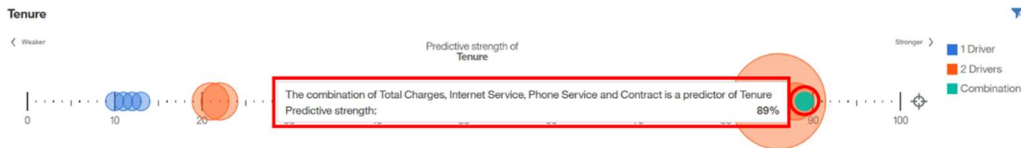

In this example, the Driver Analysis shows that the combination of Total Charges, Internet Service and Contract influence Tenure, but you don't yet know whether it's low charges or high charges or what type of internet service drive tenure higher or lower.

Decision Trees

A Decision tree is used to highlight key insights in how underlying data patterns drive results of a chosen target. Decision trees have a single target. If the target field of the decision tree is continuous, for instance a measure such as Revenue, then the key insight indicators highlight unusually high or low groups. If the target field of the decision tree is categorical, for example a product or attribute, then the key insight is the most frequently occurring category or categories of the target field within the group.

__7.   **Click** the **Green Bubble**. Since the green bubble represents more than two drivers, the visualization preview renders a decision tree. **Click** on the **Add card** button to add the visualization to your Exploration.
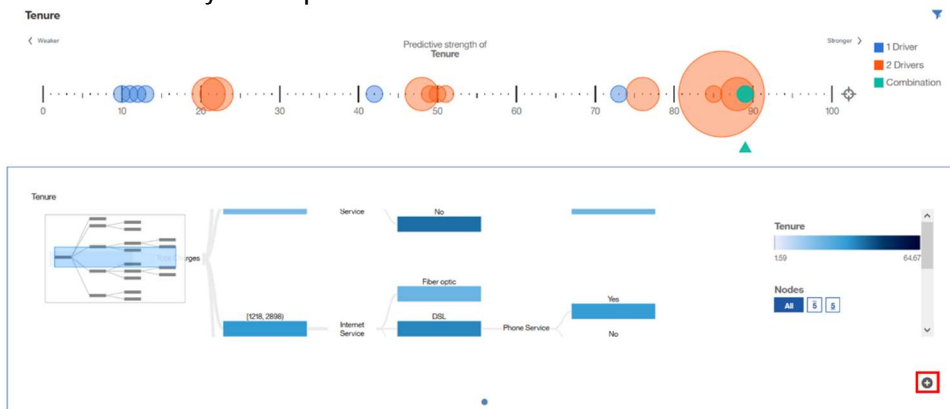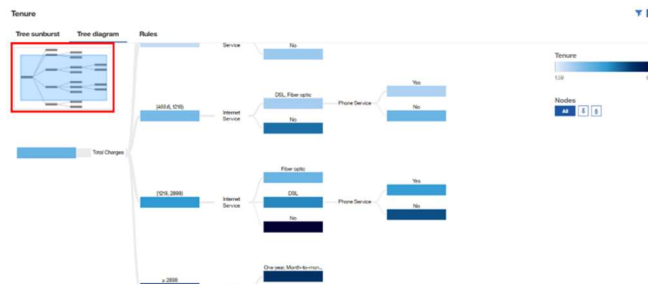
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__8.   From the **Navigation panel**, **open Explorations** to see your Exploration cards, if not already open. **Select** the **thumbnail** of the **Decision tree** to open it on a new card on the canvas.
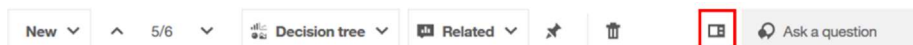
__9.   **Click** on the **Show details and slots** icon on the toolbar to open the panel, then **click** on the **data slot tab**.

35

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__10. Currently, Tenure is set to the Target. But you are also interested in Churn. From the **Navigation panel**, **click** on the **Sources** icon to open the data sources panel. **Scroll** to the bottom of the data source list to **Select Churn**. **Drag Churn** over to the **Target data slot** to replace Tenure.
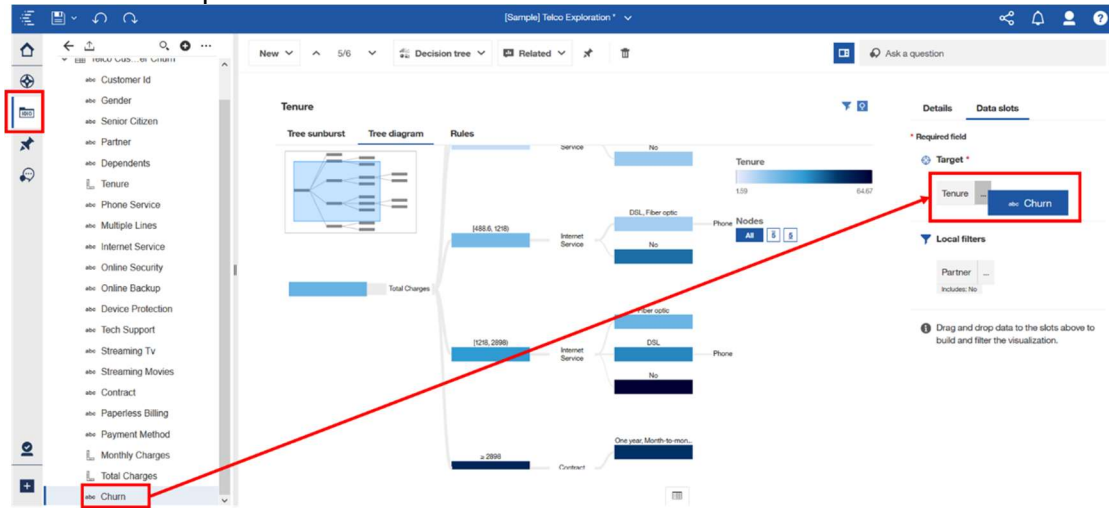
__11. The decision tree updates and you can now see the patterns of drivers related to Churn. Use the thumbnail or your mouse scroll wheel to **zoom in/out** if needed.

__12. To read the diagram, you will start with the first driver listed from left to right, **Tenure**.

__13. **Question**: What insight does this give you?

_____

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In reading the Decision tree diagram from left to right, we see that the first driver identified is Tenure which has been broken down into four statistically relevant groups. In the diagram, you can immediately see that appears to be a large difference in churn rates for customers that have less than 10 months tenure versus those that have been customers for 10 or more months.

__14.   Next, you'll continue to read the decision tree diagram moving to the right and focus on the second driver identified.
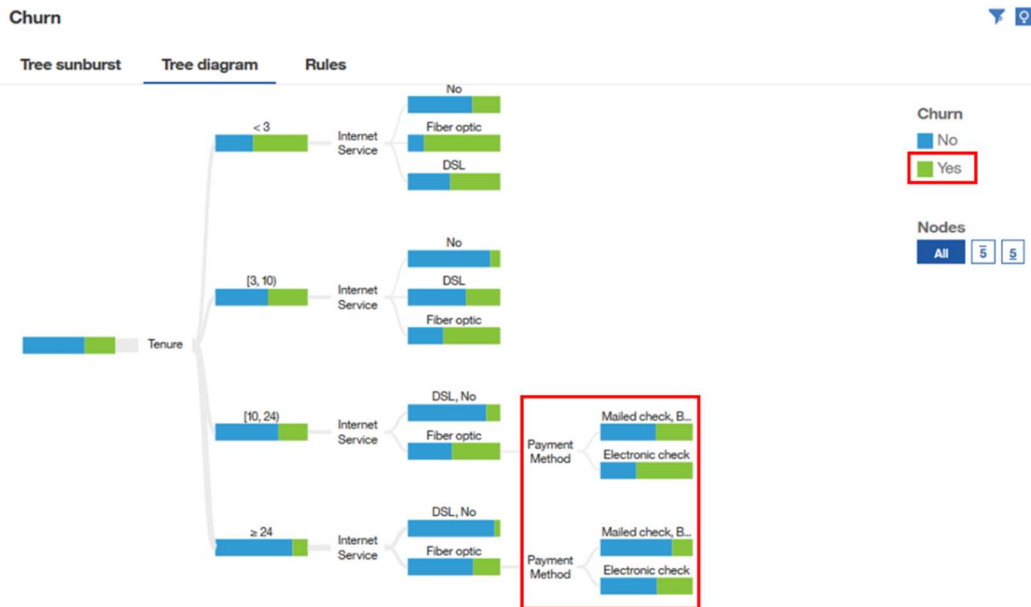

__15.   **Question**: What insight does this give you?

_____

_____

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Recall that customers have either phone service, internet service or both services from Telco. The next driver indicates that the statistically significant patterns driving churn appear to be from those customers with Internet service. Within this group, the decision tree makes it easy to see that customers with Fiber Optic churn at a much higher rate than those on DSL or without internet services.

_16. Continue to read the decision tree diagram moving to the right and focus on the last driver identified.

_17. **Question**: What insight does this give you?
(HINT: Use the data tray to view the various Payment Methods)

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Telco accepts payments from customers via mail, electronic checks, bank transfers and credit cards. Those paying by Electronic check have the highest degree of churn.

Decision Rules

The decision tree diagram gives you a tremendous amount of information and insight. But from all the patterns and insights you discovered, how do you easily prioritize actions? Cognos Analytics makes it easy by providing you with the ability to easy slice and dice the top and bottom results.

__1.   Under **Nodes**, **click** on the **Top 5 target values** and use the pull-down arrow to **set** them to **Yes**.


39

The results for the top 5 patterns of customer churn are presented. From here, you can see that those most likely to churn are shorter tenured customers, either less than 3 months or those from 3 to 10 months, and that those with Fiber optic service are at the greatest risk of churning.

Your Exploration allowed you to identify specific decision rules for customers with a high propensity to churn by using the Decision tree visualization. Cognos Analytics will provide you with the full list of Decision Rules and predictive strengths for each in an easy to follow list that is great for analysts looking to use these rules in their predictive models.

__2.   **Click** on the **Rules Tab**. The visualization updates to show the Decision rules in easy to understand text. Note that the Churn visualization bar from the Decision Tree is present along with the Decision Rules and record count/percentages in easy to read text.

__3.   Use the **down arrow** next to **Target Category** and **select Yes**.

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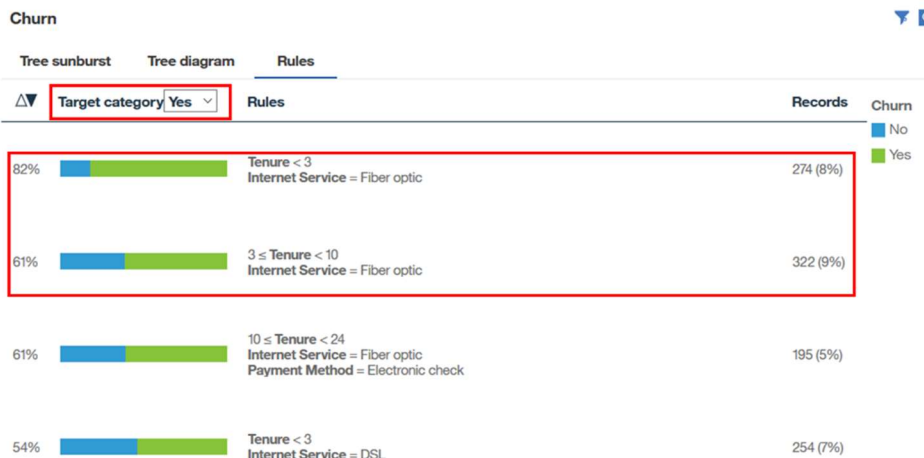
Notice that the decision rules are listed in order of predictive strength. The top two listed are the same as you derived in the previous exercise using the Decision Tree diagram.

This analysis has given you a tremendous amount of insight into the customer base. You now have the insight you need to propose the recommended steps to the Marketing team.

__4.   **Save** your Exploration.

Congratulations, you've completed your first Data Exploration! You can now bring your Explorations and findings into Dashboards and Stories to communicate your findings to the Marketing Group.

To continue your Analytics journey, please check out our other tutorials in this Cognos Analytics 11.1 series:

Dashboards, Visualizations and Exploration
Data Preparation and Modeling
Report Authoring

Find these and more by visiting us at: https://ibm-dte.mybluemix.net/cognos-analytics

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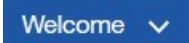
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Appendix A: Cognos Analytics User Interface

__1.   **Navigation panel.** On the left side of the UI is the main **Navigation panel**. This navigation panel is present on the UI at all times and updates dynamically as the User works with the various capabilities within Cognos Analytics. The upper part of the panel provides Users with direct access to search for their content, and links to content to which they have access. The bottom portion of the panel provides Users with one-click access to capabilities to create and manage new activities such as creating new content, uploading personal data files, accessing notifications and managing the environment (dependent on User permissions as set by the Administrator). The Navigation panel will dynamically update with capabilities based on the content the User is working with on the canvas.

- **Home**. The Home page is main screen the User will come to when entering Cognos Analytics. The default view will render lists of recently used content, a file drop zone for uploading files, and a quick reference section which allows the User resources to get started, sample data sets, and links to support materials. For the home page, the User may change their view by selecting a saved Dashboard, Report or Story to render on this home page. Administrators may also set the homepage view globally, or by User Group.

__2.   **Search**. The New Smart Search in Cognos Analytics provides a modernized search engine that uses a smart, intent-driven search algorithm to assist the User. Click on Search to open the search panel. Type "Sales" in the search dialog box. As you type, an auto-fill feature will launch and render search suggestions for related terms. Click outside the Search panel to close it.

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- **My Content.** The **My Content** folder provides the User with direct access to the content they have saved. This is content owned by the User and may only be viewed by the User. You will be saving your work from today's workshop in this folder. **Click** on **My Content** to open the navigation panel to see if there is any User content in your environment. **Click** outside the **My Content** panel to close it.

- **Team Content.** The **Team Content** folder contains all the published enterprise and shared content the user has permissions to view. **Click** on **Team Content** to open the navigation panel. Notice there is a list of folders. We will go deeper into these later in the exercises. **Click** outside the Team Content panel to close it.

- **Recent**. IBM research shows that Users typically use the same set of content on a regular basis. The **Recent** button shows the User the most recently used list of content, up to 20 objects (reports, dashboards, data modules, etc.). Objects appear in order based on most recently used.   Once an object is viewed, it will move to the top of the list. **Click** on **Recent** to see what, if any, are the most recently used objects in your environment. **Hover** your mouse over the icon to the left of each object to identify the type of object. **Click** outside the **Recent** panel to close it.

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- **Manage**. Users who have been granted departmental administration permissions are able to manage content and create or modify Users, schedules, data sources and customize the environment.

- **New**. The New button allows Users to create new content. It is intent-driven, meaning that it allows Users to select what type of content they wish to create, and the Cognos Analytics UI will open the associated capabilities in UI. From here, Users may create new Reports, Dashboards, Explorations, Stories, Data Modules, Upload files, and Jobs.
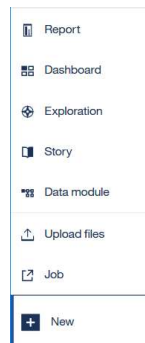

____3.   **Switcher Menu**. The Switcher menu at the top center of the UI provides a dropdown button that allows Users to easily move between the different objects they have worked with during their current session, without opening additional browser windows. (None will currently show as you have not opened any objects so far, but example is shown below).
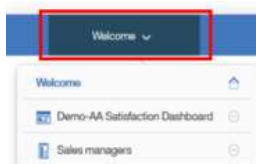
____4.   **Drop Zone**. Users may now easily upload files to Cognos Analytics using the **Drag and drop files, open Quick Launch or Browse** section at the bottom of the home page.

____5. **Coach Marks**. **Coach Marks** are available as indicated by a green button next to action buttons. Coach marks provide a pop-up of User Interface hints and are provided to enhance the user experience by providing information to the user on how to use features.

44

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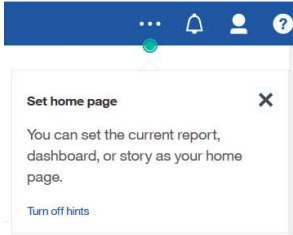
TECH TIP: *YOUR WORKSHOP IMAGE MAY NOT HAVE COACH MARKS* *TURNED ON. TO TURN ON COACH MARKS, CLICK ON THE PERSONAL MENU BUTTON   ON THE UPPER RIGHT OF THE APPLICATION TOOLBAR.   SELECT MY PREFERENCES AND CLICK THE BOX NEXT TO "SHOW HINTS". CLICK OUTSIDE THE PANE TO CLOSE IT.*

__6.   **Canvas**. The majority of the UI is dedicated to the **Canvas**. This is the interactive work area where the User will interact with all their data. The Canvas will dynamically update based on the content the User is working on.

Now that you are familiar with the User Interface, you're ready to take Cognos Analytics for a test drive.

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