IBM Cognos Analytics - Getting Started with Explorations

Duration: 1.5 Hours (estimate)

Instructions Update:
This demo has been updated to use IBM Cognos Analytics on the Cloud version 11.2.

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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. 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 tutorial, you will explore the following key capabilities:

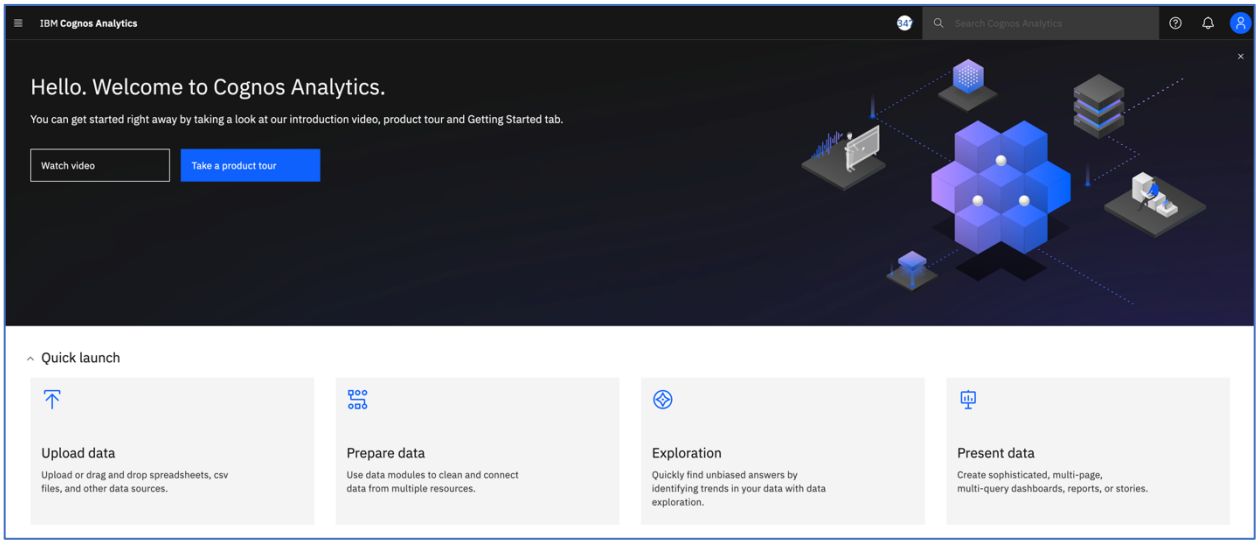
- Upload Data sources to Explore
- Discover relationships in your data
- Surface Insights to begin your analysis
- Identify patterns and key drivers

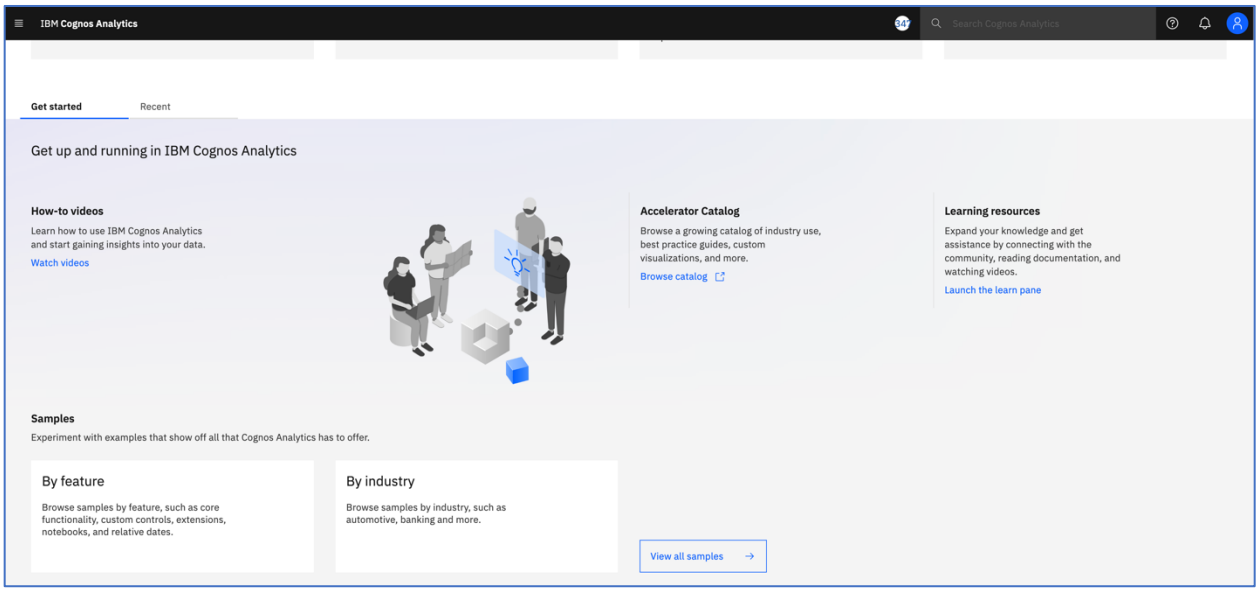
Step 1. Start Cognos Analytics for your Tutorial

From your desktop, open **Chrome** (this is the preferred browser, however, you can also use: Firefox, or Safari).

Navigate to the Cognos Analytics launch page: https://www.ibm.com/products/cognos-analytics

Enter your **IBM ID sign-in credentials** to launch IBM Cognos Analytics. You will land on the welcome page.





Part 1. 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.

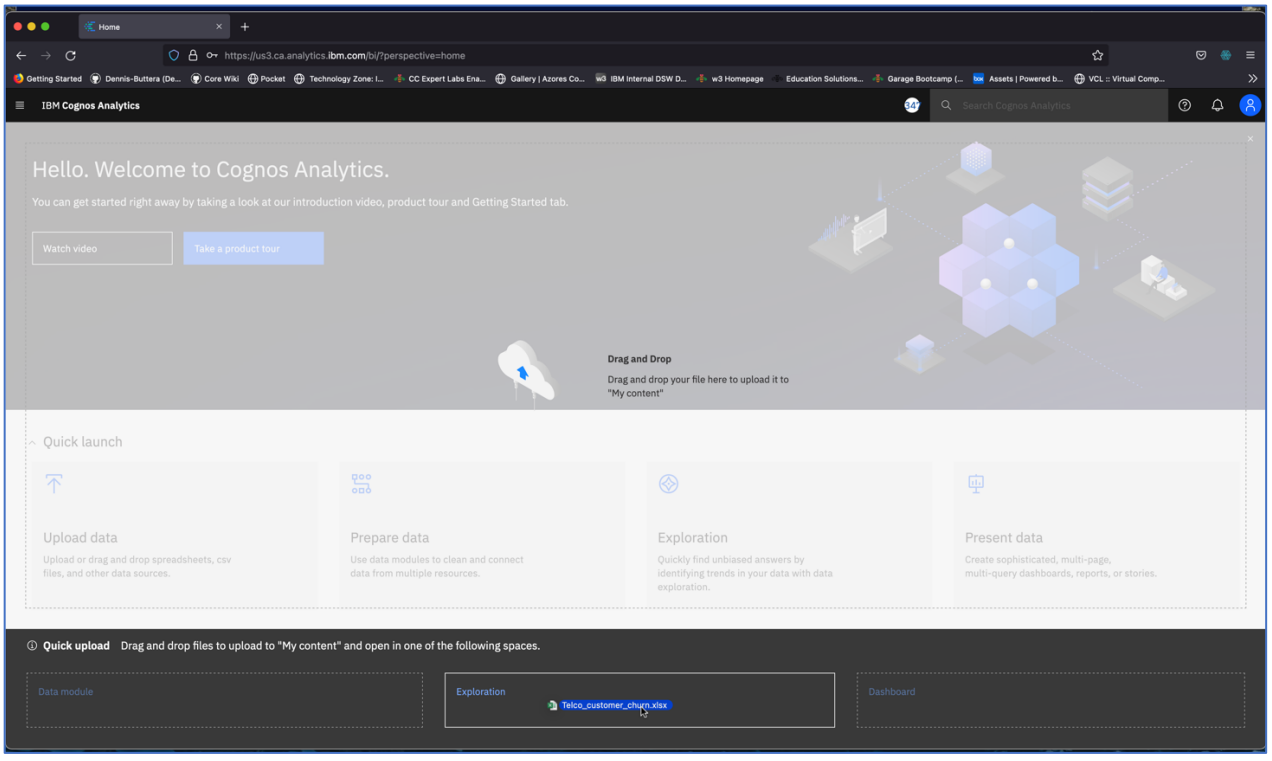
Part 2. Uploading External Data Files

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, the file you will use for this tutorial ***Telco_customer_churn.xlsx***.

To upload a file, drag-and-drop the **file** into the interactive **drop zone.** Depending on where you drop the file, certain Cognos Analytics functionality will be initiated.

For this workshop, drag the **Telco_customer_churn.xlsx** file over the canvas until the ***Quick Upload*** menu appears at the bottom of the screen. This 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 content folder and launch the Data Exploration capabilities for you to begin working with your data.

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.

Once it completes, the status bar will update to show the successful completion before closing.

By selecting to upload the data and launch an ***Exploration***, the ***Exploration*** user interface will immediately open after the upload is complete.

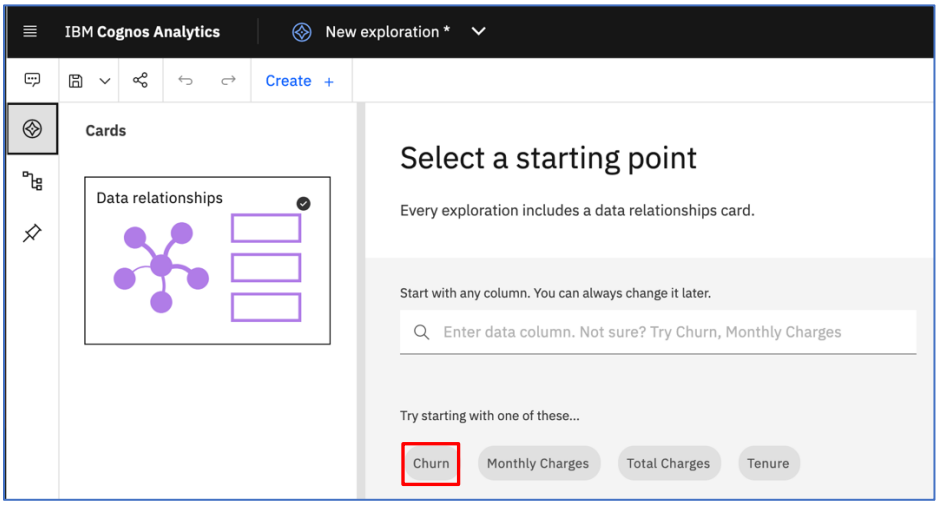
You're now ready to start to explore your data.

Cognos Analytics analyzes the data and identifies interesting items, then presents a relationship diagram as the initial view.

Part 3. Starting Cards

Every Exploration includes a **Starting Card** to begin analysis. Users can enter any data column to use as a starting point, or, can select from a list Cognos Analytics identified.

Select **Churn** for your Starting Card.



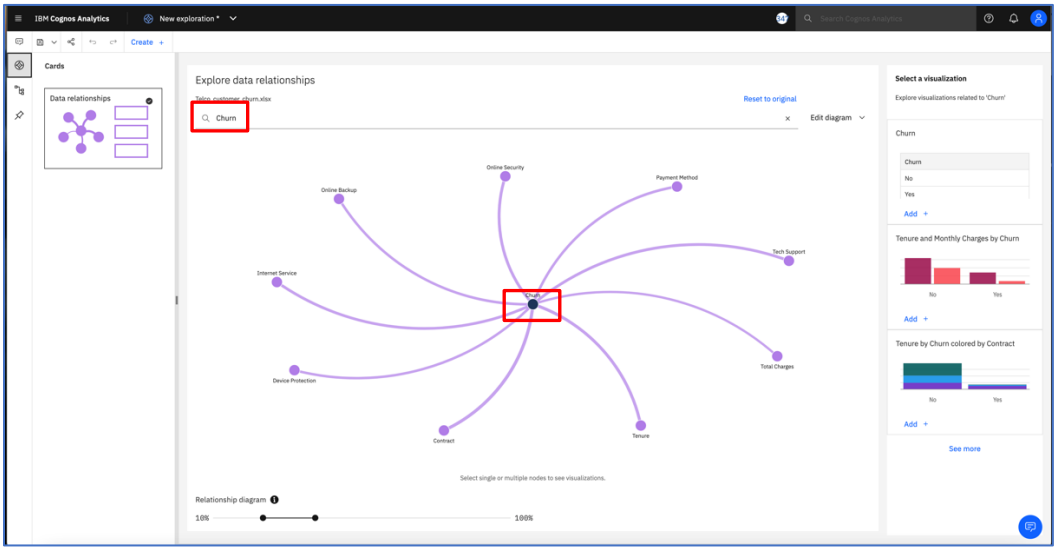
The Exploration will update to a **Relationship Diagram** for your field of interest.

Part 4. Data Relationships

The relationship diagram plots 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**" (**Churn** in this case).

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.

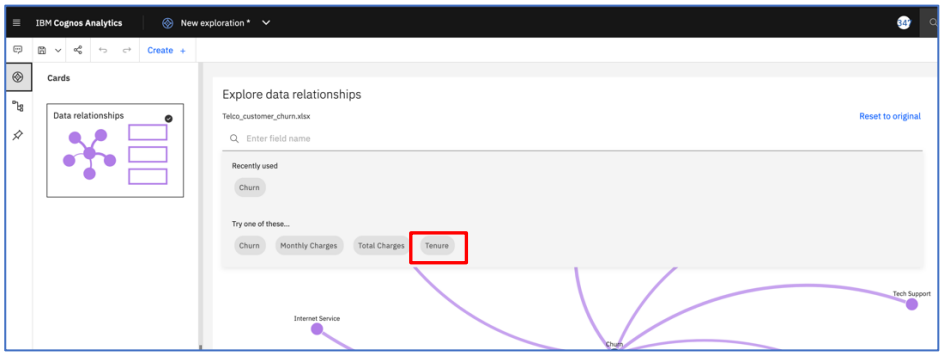


Churn is a measure field and you will see it as blue circle in the center of the diagram. The lines show which fields are related based on a statistical analysis, with the thickness indicating the strength of the relationship.

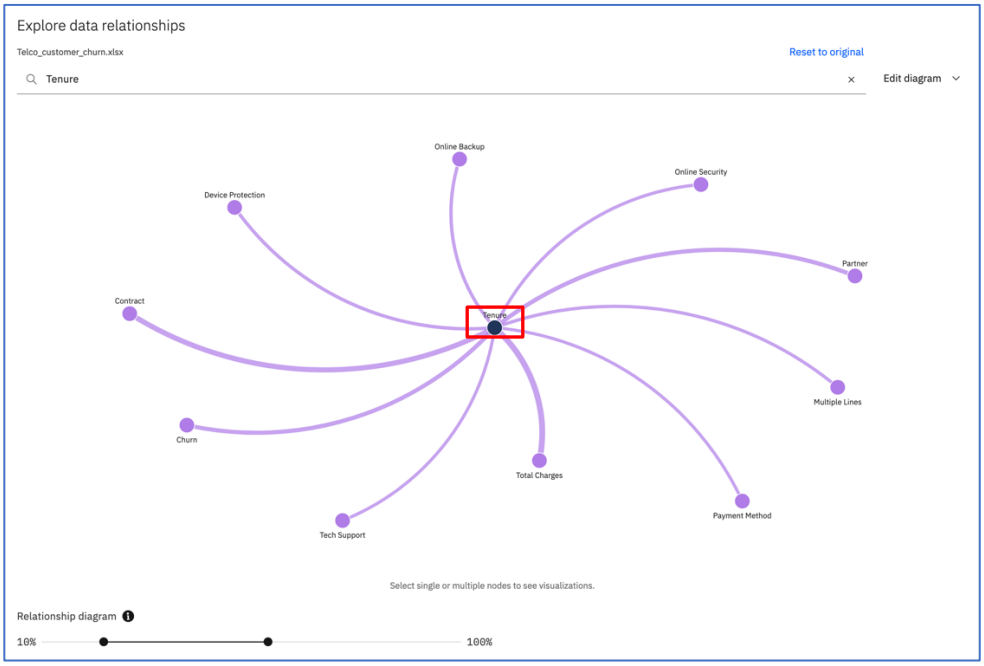
To change the Field of Interest, click on the "**X**" in the interest field.

Cognos Analytics will render a list of additional recommend Fields of interest for analysis.

Select the **'Tenure'** field.

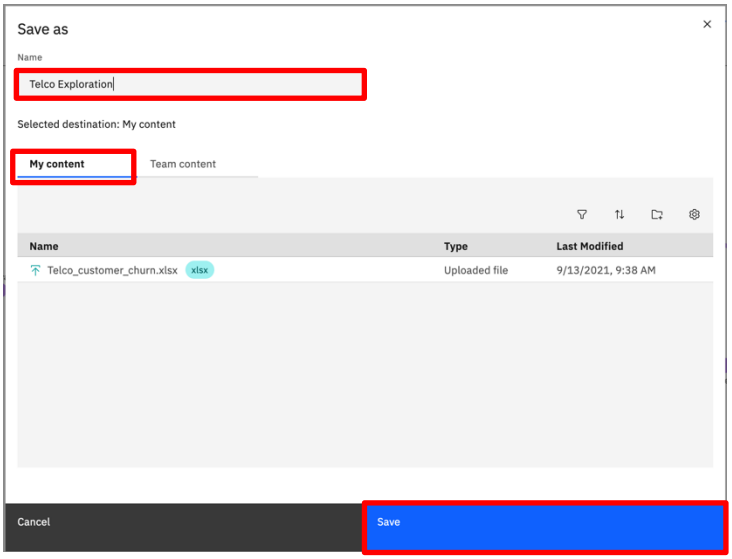


The diagram re-draws with '**Tenure**' as the **Field of Interest**.



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 Relationship strength slider.

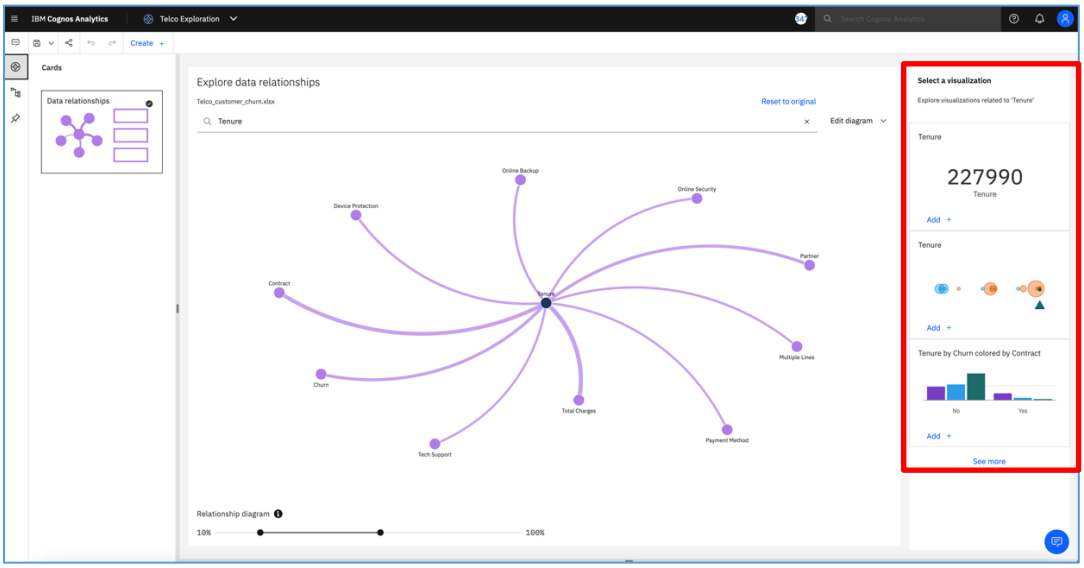
Click on the arrow next to the **Save** icon on the dashboard toolbar and then click "**Save As**". Navigate to **My Content**. Save as "**Telco Exploration".**



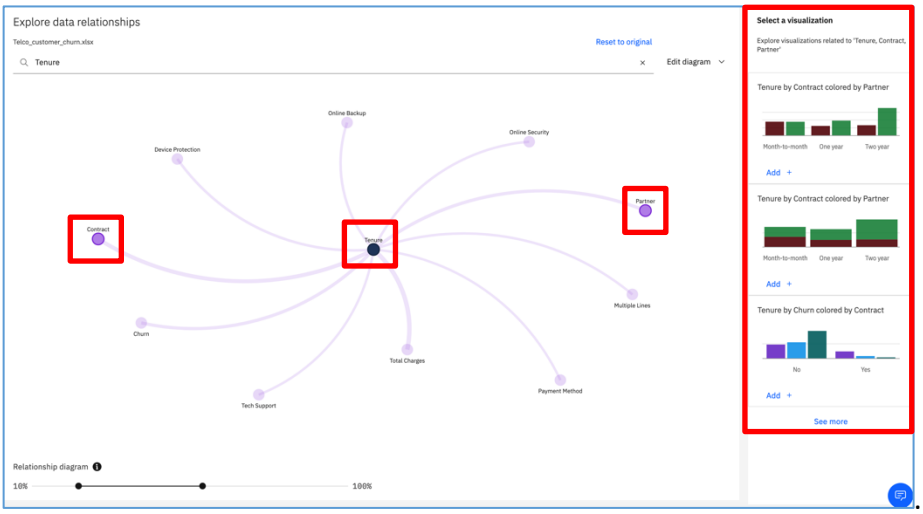
Part 5. Suggested Starting Points

You can continue your analysis by choosing a visualization recommendation from Cognos Analytics. You can also select items in the relationship diagram to generate visualizations to use as your own starting points for analysis.

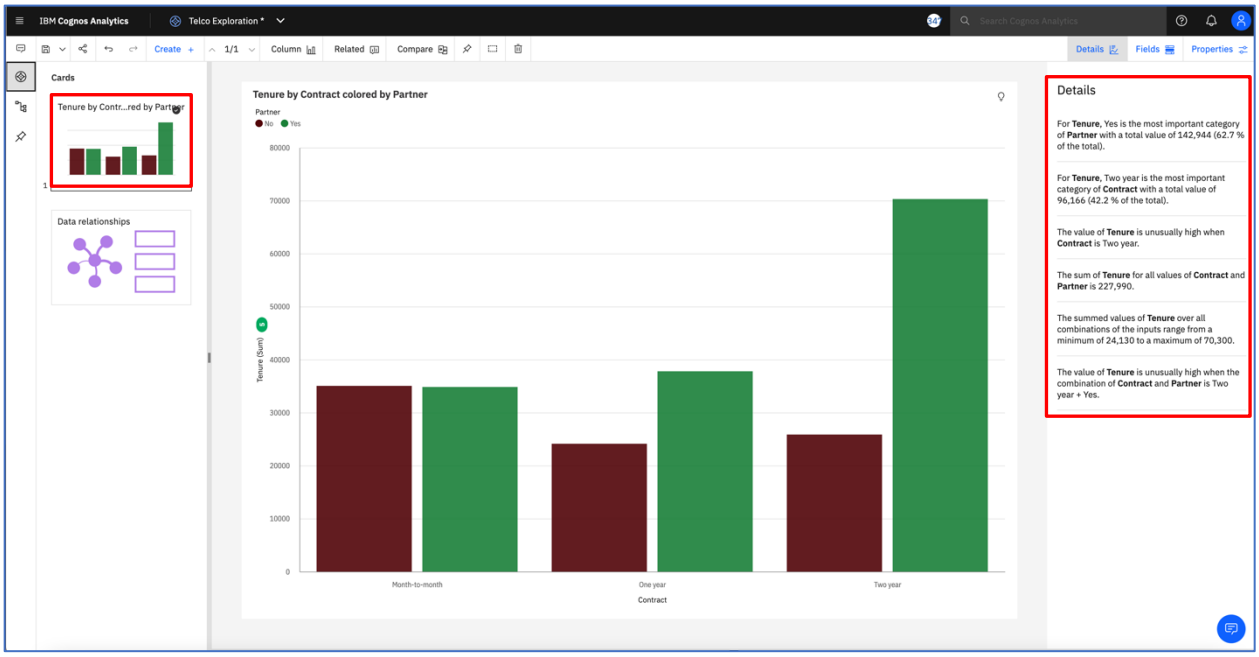
In the right panel, Cognos Analytics identifies visualizations as additional areas of interest which could be used in your analysis. These are all generated based on the field of interest in the relationship diagram.



In the diagram, use the control-key to multi-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.



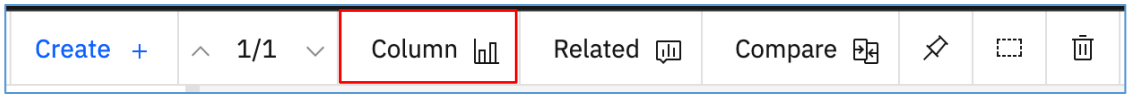
Click the **Column chart** suggested visualization for **Tenure by Contract colored by Partner.** This creates a new "**card**" with the visualization in focus.



The Details panel to the right of the chart display information about the visualization. Details provide additional context about the data displayed in the chart that might not be immediately obvious

Part 6. Visualization Library

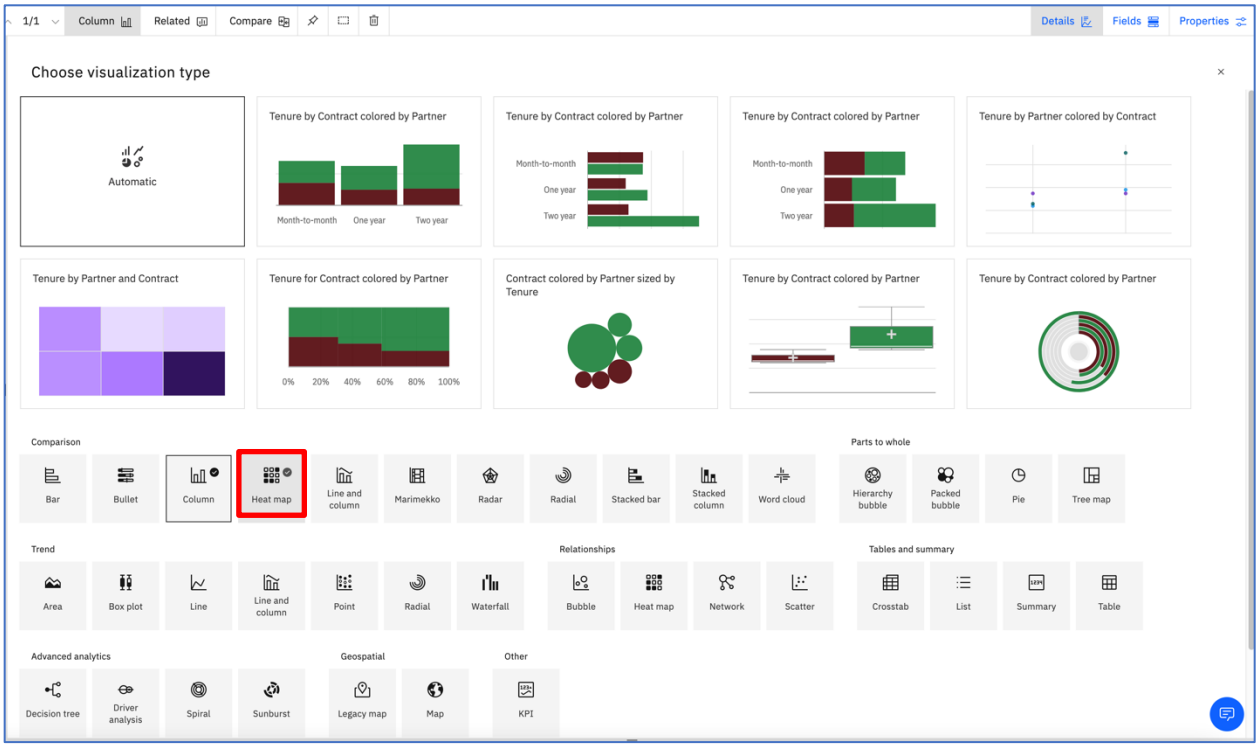
From the **Exploration toolbar** above the visualization, click **Column** to open the Visualization library.



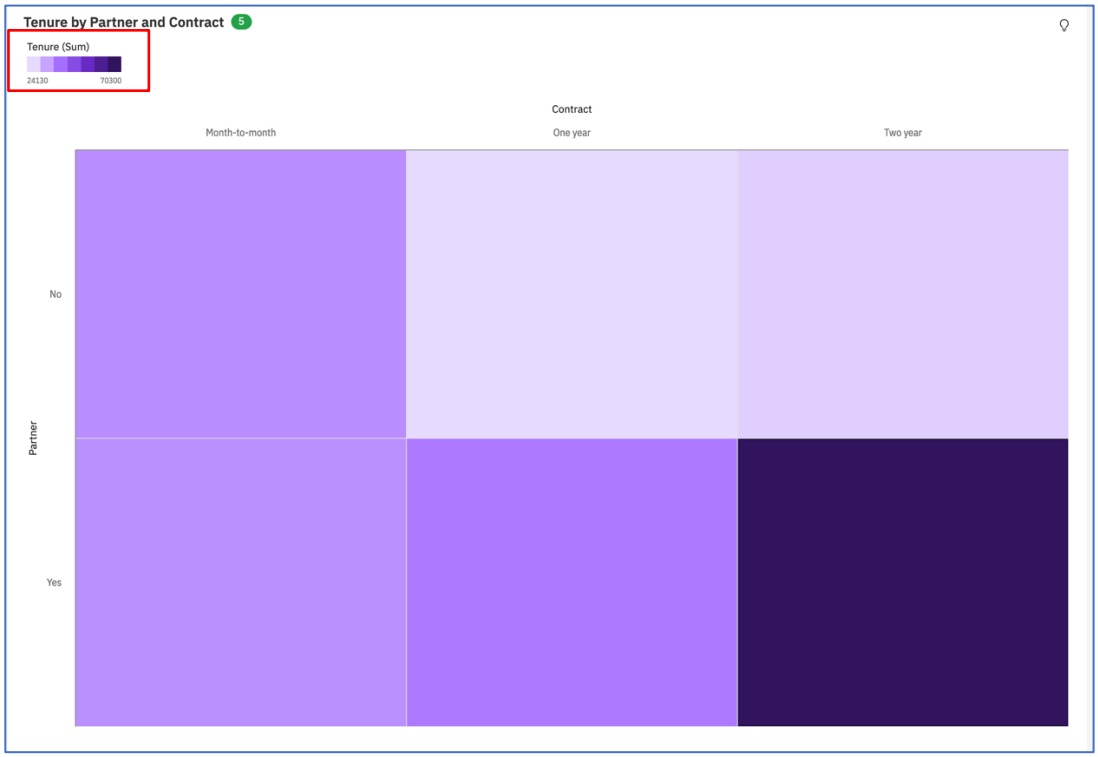
The Visualization library opens with **Recommended visualizations** optimized to display the current data in focus.

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**.



You can quickly 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.



Currently, you are looking at the total *sum* for **Tenure**, but for this analysis, you want to look at *average* **Tenure**.

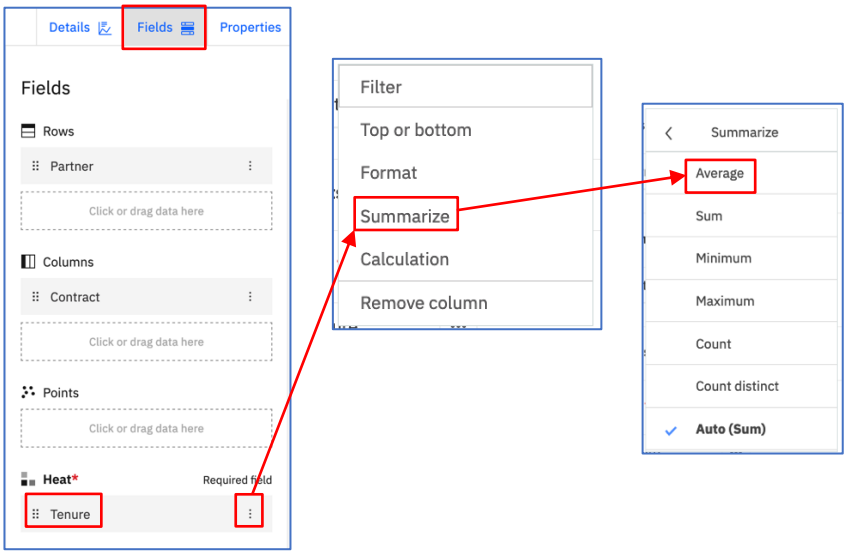
From the right panel navigation, select the **Fields** tab.

Under the **Heat** field, **click** the **ellipses** (**…**) next to **Tenure**.

Select **Summarize**.

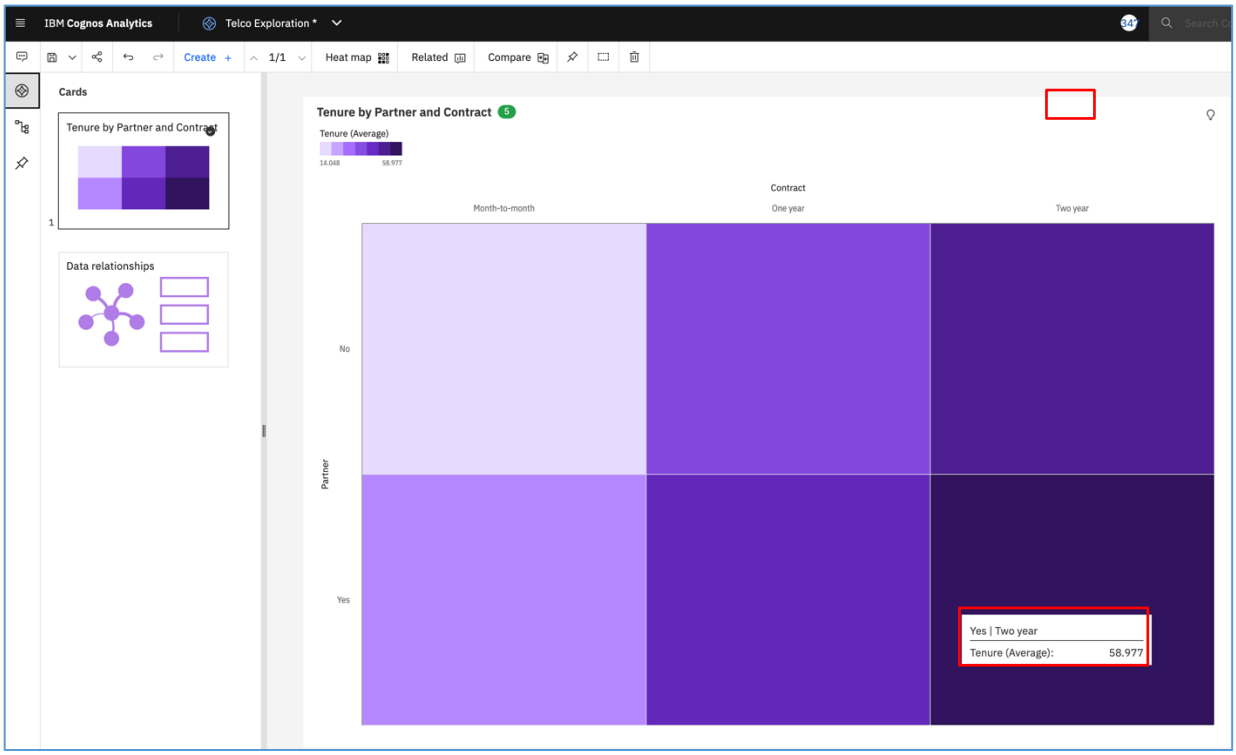
Select **Average.**

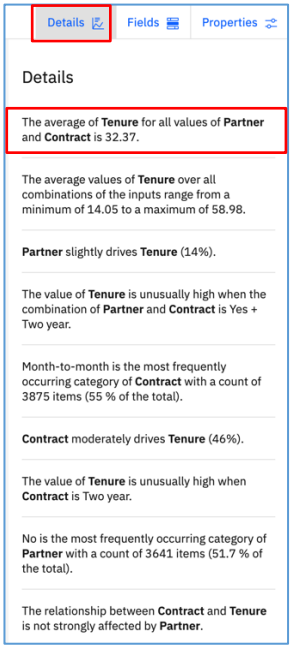
Click outside the *Summarize* **List** to close it.



The visualization will update to reflect the new aggregation.

Hover over the **darkest block** to see that the *Average* value for **Tenure by Partners** with 2-year contracts is 58.977.





Click the **Details** tab to the right of the chart to display additional information about the visualization.

Here you can see that the average value of **Tenure** for **Partner** and **Contract** is **32.37**.

This is much lower than the 2-year contracts with partners, which was the 58.977 seen in the heat map.

Save your Exploration.

Part 7. Related Visualizations

When a visualization is in focus in an exploration, the system recommends related insights beyond what you specifically requested.

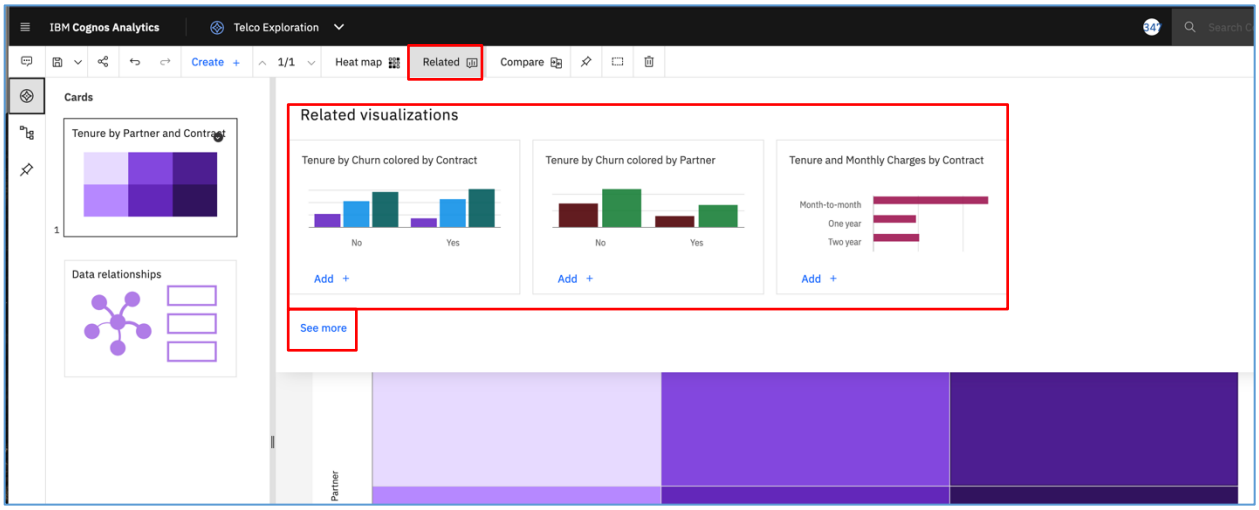
Based on Cognos Analytics' data analysis, these related visualizations might be of interest to you as they were found to be related to the data items currently in focus.

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

From the **Exploration** toolbar above the visualization, click **Related** to open the **Related visualizations**.

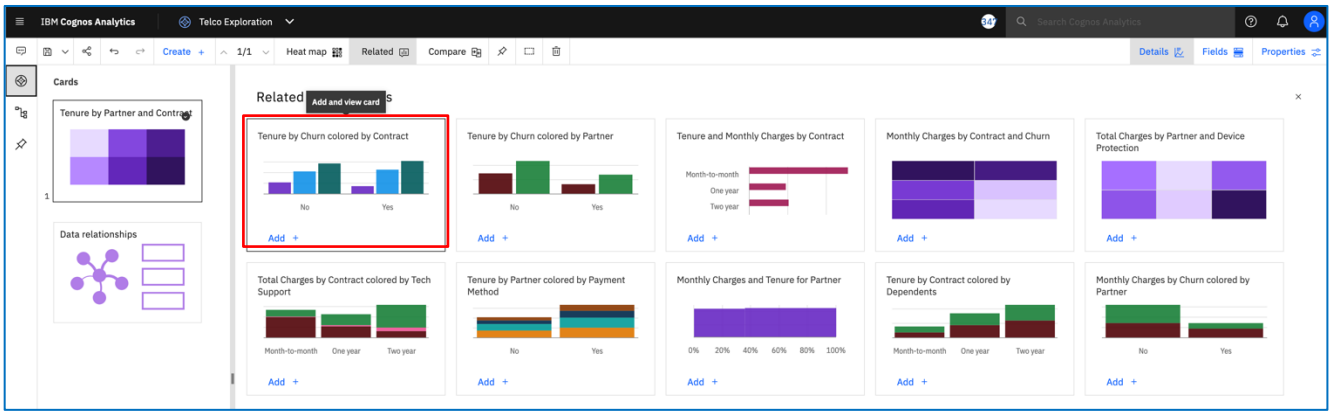
The visualizations presented contain one or more of the fields from the current card combined with other fields from your data source. Related visualizations are intended as suggested next steps in your exploration journey.

Click on the **See more** button to see additional **Related visualizations**.



Several **Related visualizations** are suggested for you to use for your analysis. You can save these to your Exploration content by clicking the "**Add +**" below the visualization.

Click the "**+**" under **Tenure by Churn colored by Contract**.

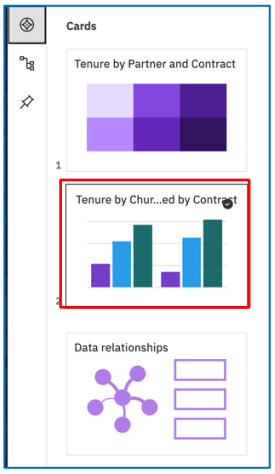


NOTE: The **Related visualizations** in your workshop instance may differ from those shown in the example. You may select any other recommended Related visualization for this exercise.

The visualization has now been added to the **Cards** list on the left.

The green dot indicates it is a newly added exploration.

Save the Exploration.



Part 8. The Assistant

Cognos Analytics **Assistant** provides recommendations to help answer questions and provide the user with quick insights into their data.

In many cases, users will have specific questions they are looking to answer, but, may not be as familiar with the dataset, or, exact data items that they need to uncover the insight or answer what they are seeking.

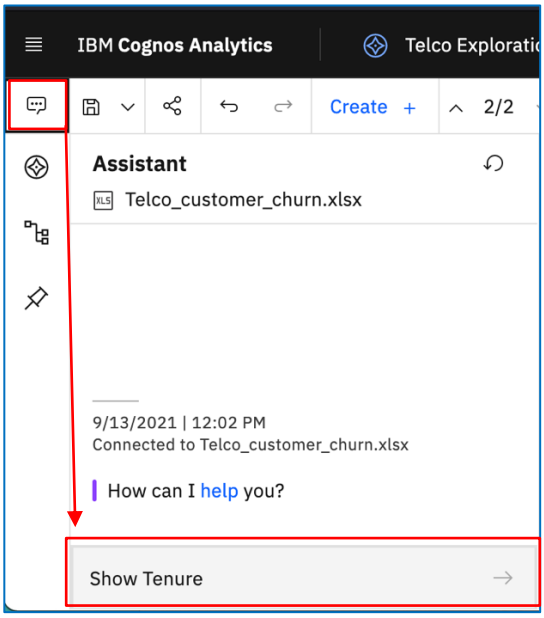
From within an Exploration or Dashboard, the user can type in natural language text to discover patterns and relationships in the data, as well as, generate visualizations that can be added to an existing or new dashboard, exploration or story.

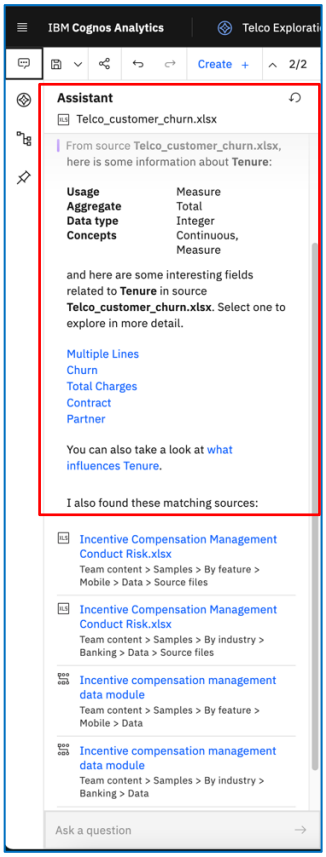
Simply enter text related to the user's analytical intentions and an AI conversational agent will respond with visualizations and other information to satisfy the request.

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

The Assistant panel opens.

At the bottom of the panel, in the **Ask a question** field, type "**Show Tenure**" and press return to activate the command.



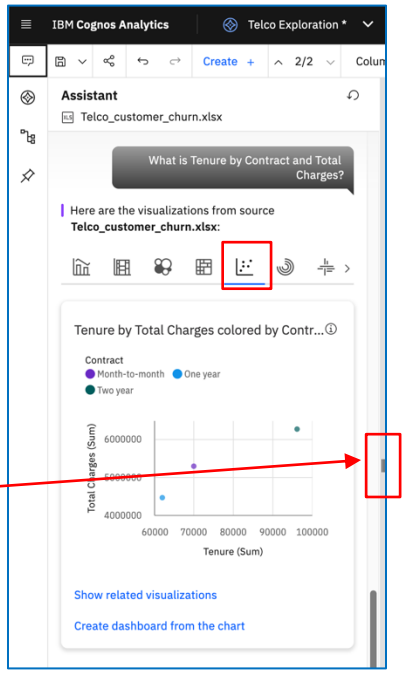


Cognos Analytics identified **Tenure** in the **Telco_Customer_Churn.xlsx** file you uploaded and also identified interesting fields in the data set that relate to **Tenure**.

TECH TIP: *If* ***Tenure*** *is in any other data sources, those would also 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.



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

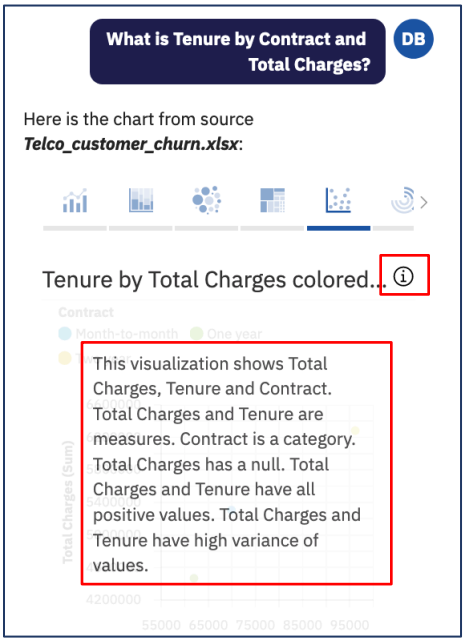
The Assistant will bring back a series of visualizations related to your question.

Scroll through the results using the micro charts above the visualization until you find the bubble chart shown.

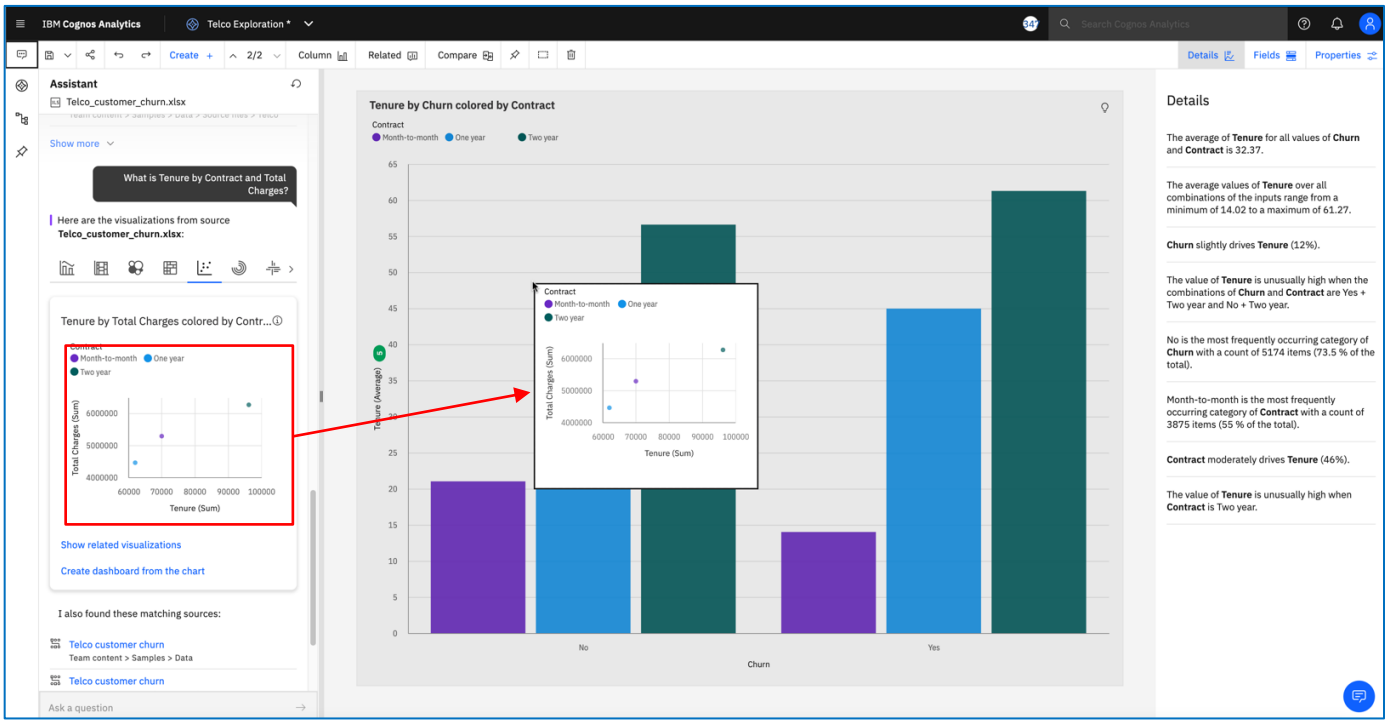
TECH TIP*: You can increase or decrease the width of the assistant panel as needed by using the pull bar on the right edge of the panel.*

Hover over the **Information** icon in the upper right corner of the visualization.

Cognos Analytics provides you with additional information on the data items from your inquiry.



Click 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.

Currently, you are looking at the total *sum* for **Tenure**, but for this analysis, you want to look at *average* **Tenure** as you did on the heatmap. You would also like to change the visualization type.

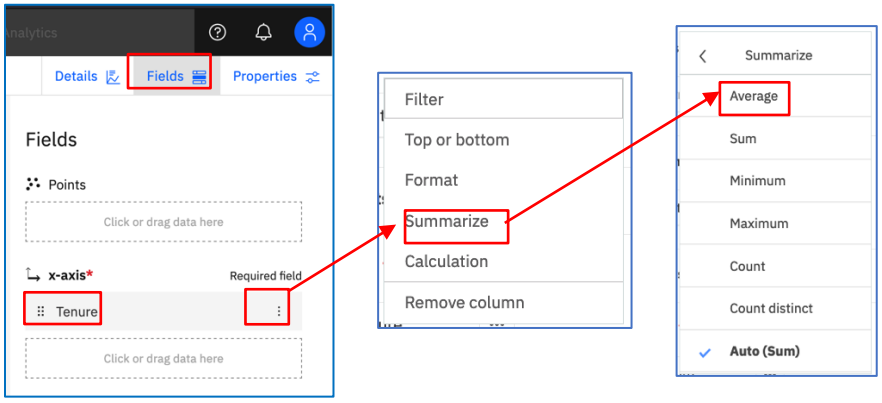
From the right panel, select the **Fields** tab.

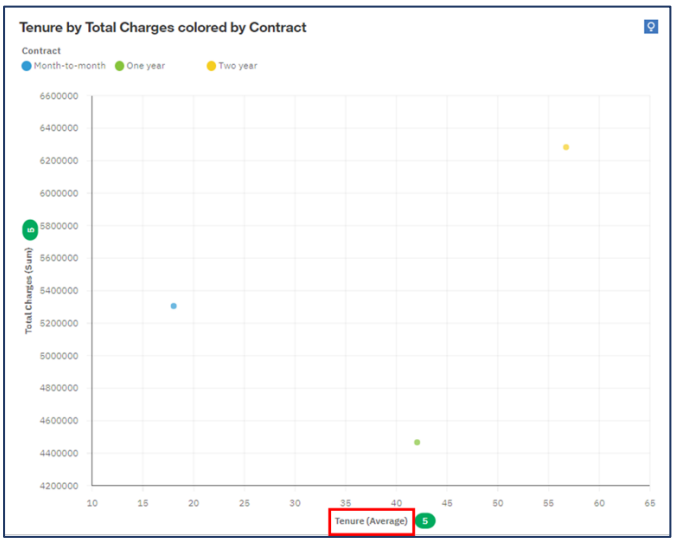
Click the **ellipses** (**…**) next to **Tenure**.

Select **Summarize**.

Select **Average.**

Click outside the *Summarize* **List** to close it.



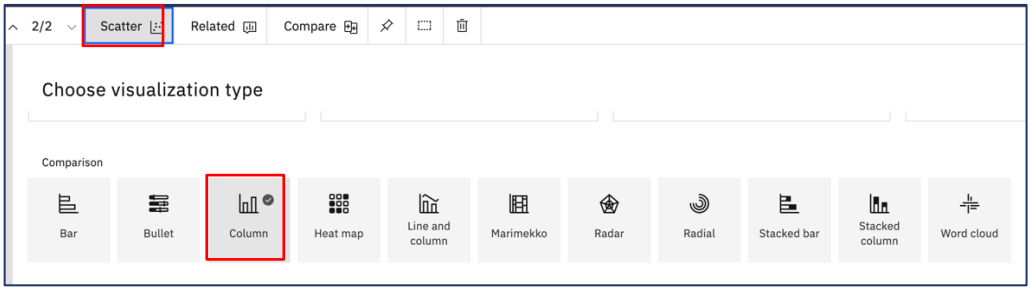


The visualization will update to reflect the new aggregation.

TECH TIP: *Summarization may also be changed at the data level from the Data Source panel, rather than each time you use it in a visualization.*

You may also want to change the visualization style for your Explorations.

Click **Scatter** and scroll down to the **Comparison** section, then select **Column.**

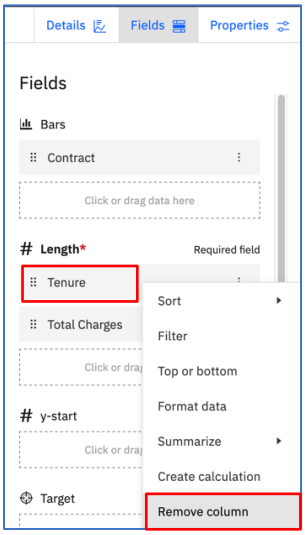


To customize the visualization further, you can modify the **Field** entries to refine your visualization.

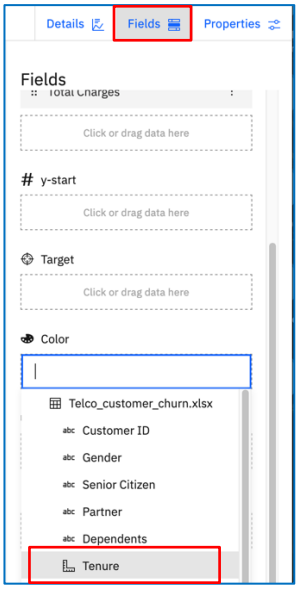
In the **Fields** panel, remove **Tenure** from the **Length** slot.

Click on the ellipses (…) and select **Remove column**.

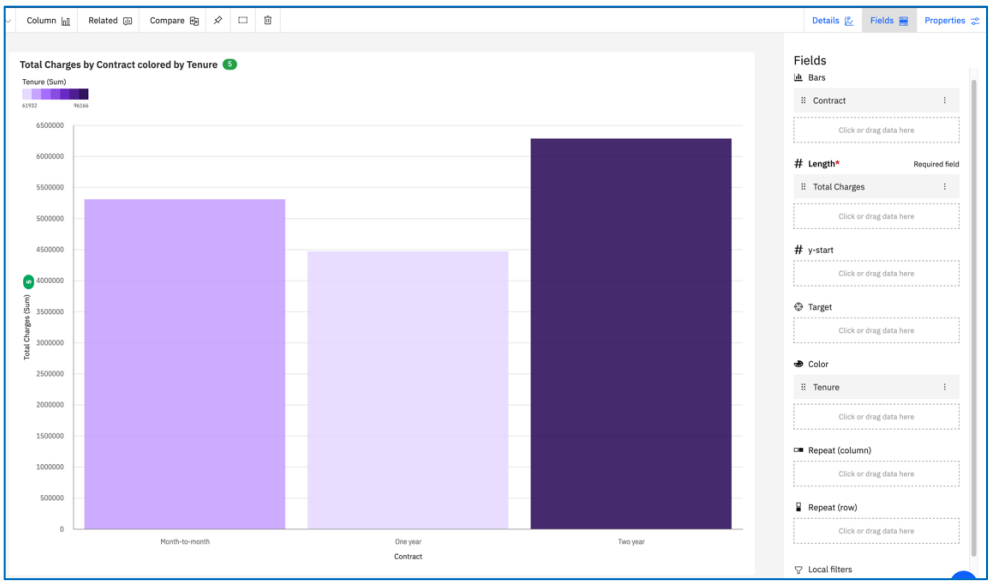
This will leave **Total Charges** alone in the **Length** slot.



Under the **Fields** tab, Click on the **Color** slot and click on **Tenure** to select it.



Your data slots and visualization should now display as follows:



Hover over any of the **bars** to see the values.

Save the Exploration.

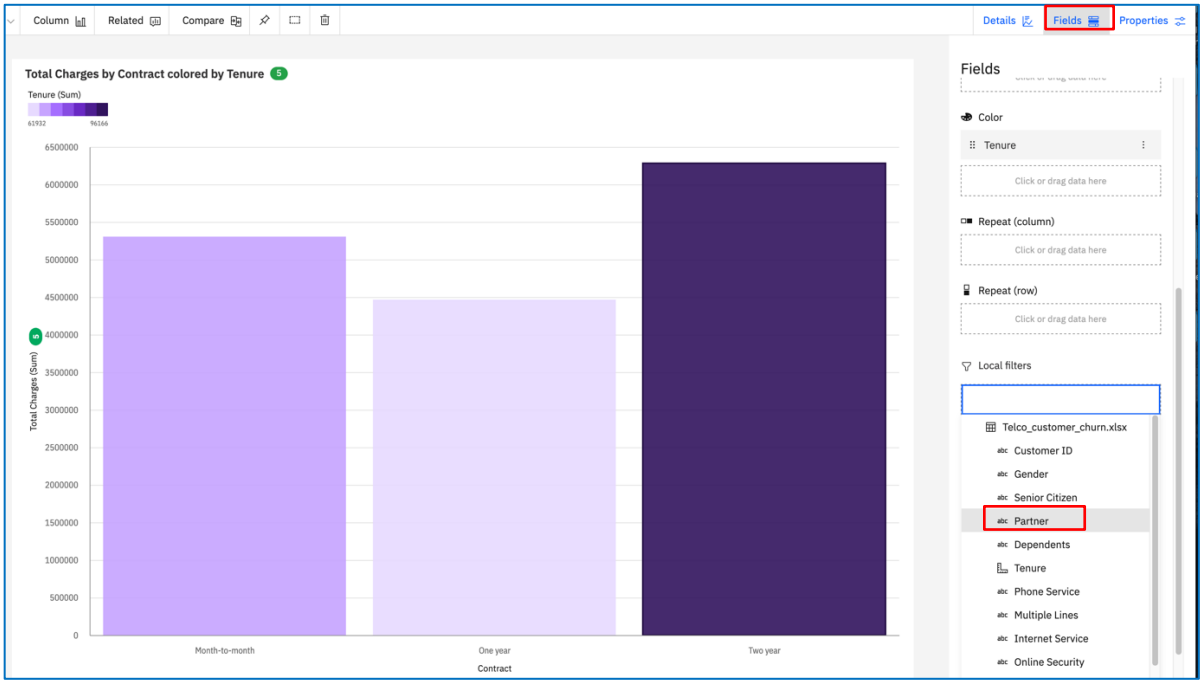
With these changes, it is easy to see that Two-year contracts have the highest tenure and total changes. Also, of interest, is that the one-year contracts generate less **Total Charges** than those that are month to month. Since Telco contracts may be sold direct to consumers or through partners, you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

Part 9. Comparing Data

You can easily compare data across two visualizations.

When using the **Compare** feature, a summary of key information and differences between the two visualizations is generated.

Click on the **Local filters** slot area of the chart. In the drop-down selection list, click on **Partner.**

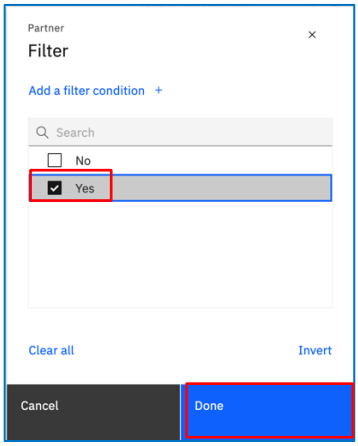


TECH TIP: *Depending on your screen resolution, you may need to scroll to the bottom of the Data slots panel to expose the 'Local Filters' area.*

The Partner **Filter Window** will render.

For the first chart, you want to filter the chart to include only the data for direct sales contracts - those where no partners were involved.

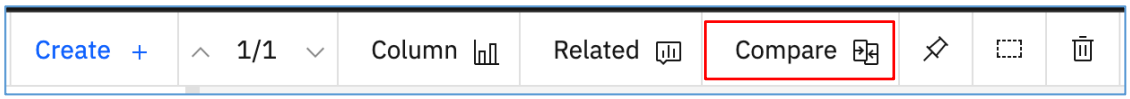
Click '**Yes**' and then '**Done**' to apply the filter.



The chart will update with the filter applied.

Notice that the **Local filters** will indicate that the filter is applied showing that **Partner** Includes **Yes**. This will show the direct sales channel, where Partners were involved.

Click on the Compare button from the Exploration toolbar.

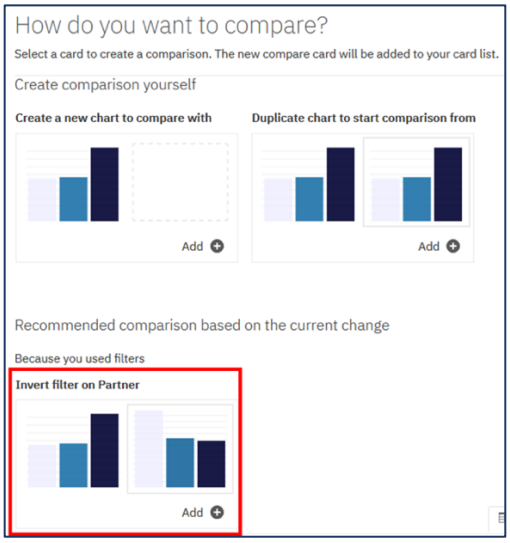


Cognos Analytics provides you with options on how to compare your data.

Because you added a filter to the current widget, it provides an option to Compare by inverting the filter.

This option will provide you with two widgets, one where **Partner** includes **Yes**, and the other where **Partner e**xcludes **Yes**.

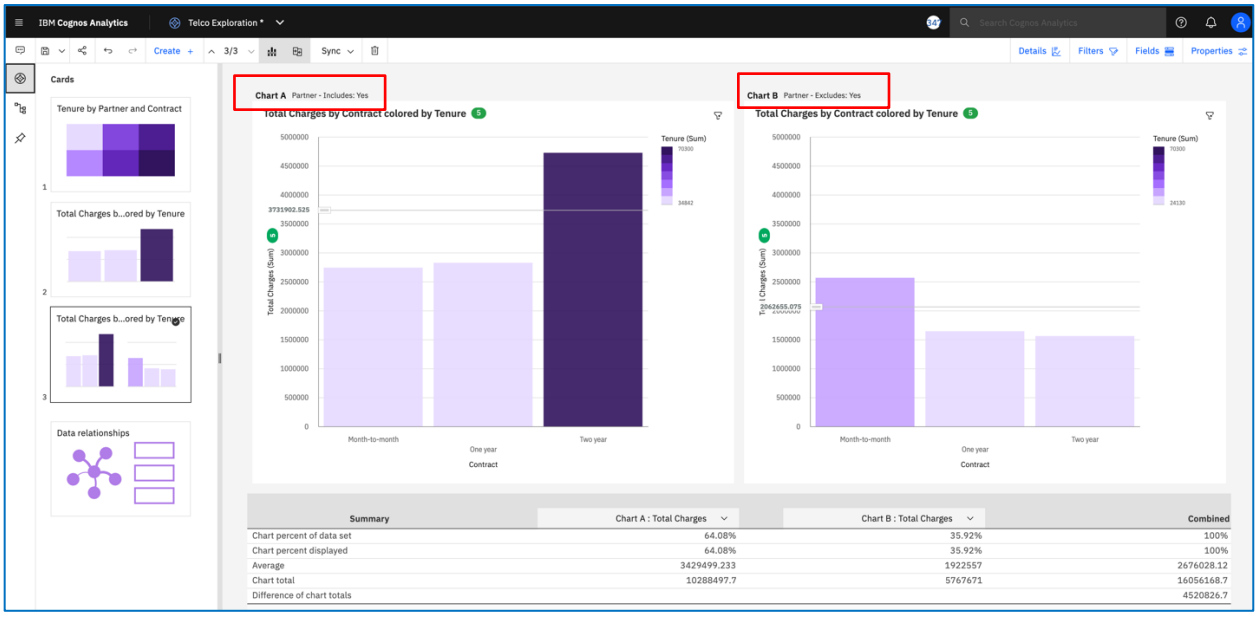
Click on the **Invert filter on Partner** card.



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 **'Details'** icon at the top of the comparison.

The order of the charts is set by the filter placed on the original widget.

For this workshop, you set the filter for **Partners** to **Yes**, therefore, Cognos Analytics created the Compare card such that **Chart A** includes **Partners** (**Includes=Yes**), while **Chart B** excludes **Partners** (**Excludes=Yes**).



There is a summary table below the comparison values for each chart and the combined values across charts.

These charts include two measures (**Tenure** and **Total Charges**).

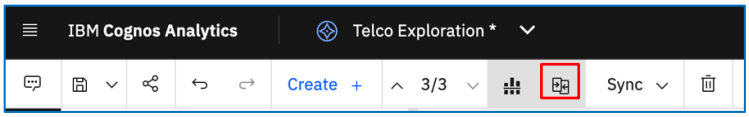
The example below shows **Total Charges.** To compare the values for another measure, use the down arrow next to the **Chart** titles. Click the **down arrow** to view other available measures.

Summary	Chart A : Total Charges	Chart B : Total Charges	Combined
Chart percent of data set		35.92%	100%
Chart percent displayed		35.92%	100%
Average		1922557	2676028.12
Chart total		5767671	16056168.7
Difference of chart totals			4520826.7

Chart A : Total Charges
Chart A : Tenure

***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.*

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



In order to easily compare values across the charts, Cognos Analytics provides you with a **Compare** line. To use the compare line, you may click the drag handle from either chart, left click, and move the line up or down on the charts.

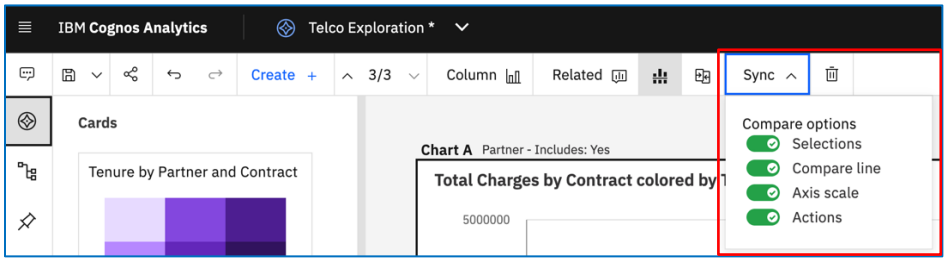
Notice that when you move your mouse across the charts, you have a side by side comparison indicator called the **Compare line**.

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

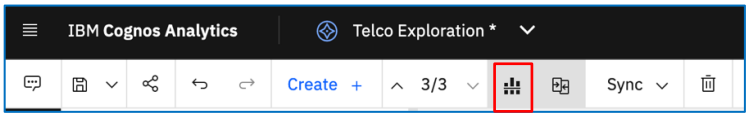
Click the **down arrow** next to **Sync** - here you can see the comparison options for the two charts.

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.



The Compare line can be turned off when not needed. Click the **Hide Compare line** icon on the toolbar.



Save your Exploration.

Part 10. Part Badges

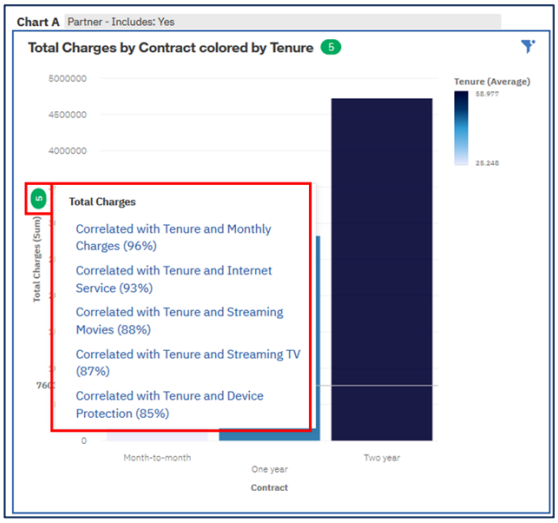
Badges indicate that the system has identified correlations to a target in your data.

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.

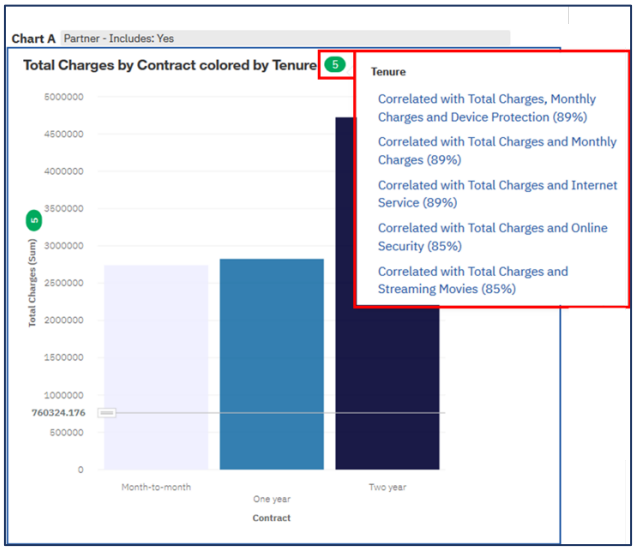
Badges will appear on the x- or y-axis of a chart to indicate that there are other data items correlated to the item shown on the axis.

If relationships to projected data items are not shown on an axis (e.g. shown in a legend), a badge will be shown to the right of the visualization title.

From **Chart A**, **click** the green **badge** on the **Y-axis**. This will render identified drivers related to the measure on the y-axis, **Total Charges**.



On **Chart A**, click 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 exist in the underlying data. Users can select a correlation of interest to them to review the key driver analysis.

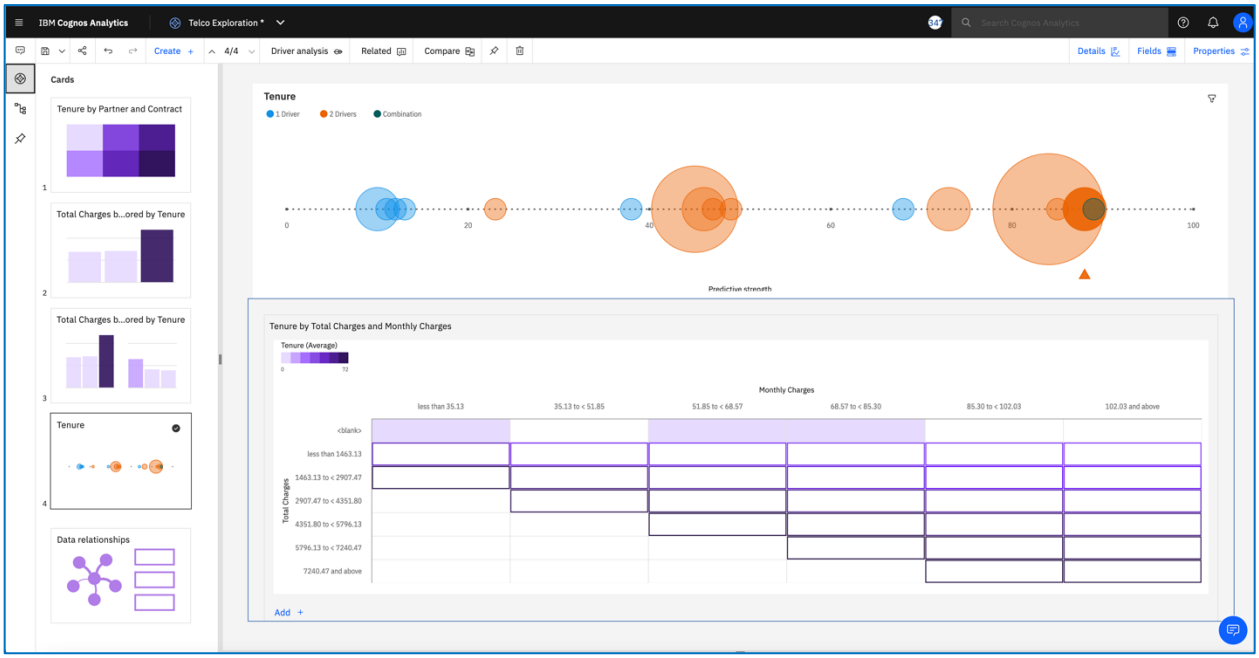
Part 11. Key Driver Analysis

A driver analysis visualization shows you the key drivers, or predictors, for a target - the closer the driver is to the right, the stronger the driver.

Cognos Analytics uses sophisticated algorithms to deliver highly interpretable insights that are based on complex modeling. Users do not have to know which statistical tests to run on data - Cognos Analytics picks the right tests for the data.

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

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).

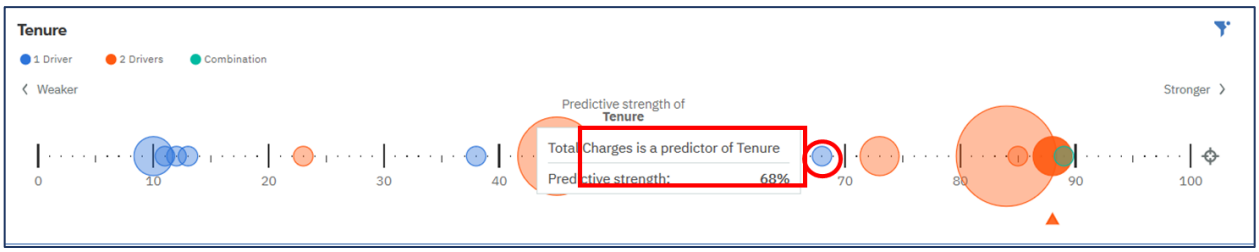
The proximity of the bubble to the target indicates the predictive strength of the driver. The closer to the target, the stronger the predictive strength.

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.

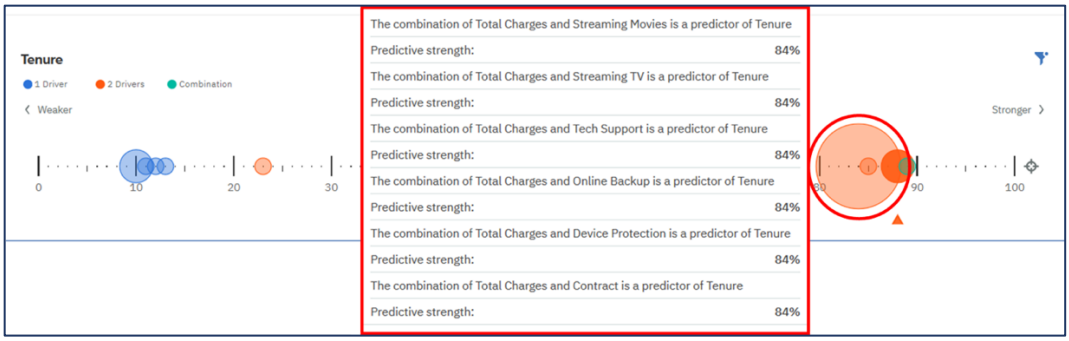
Visualizations below the comet give a preview of the driver or driver combination that is highlighted along the axis.

TECH TIP: *If you are familiar with the spiral visualization in Cognos Analytics Dashboards, the Driver Analysis “Comet” chart is like an unwound spiral. The target, in this case* ***Tenure****, is at the far right of the diagram.*

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 68%.



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.



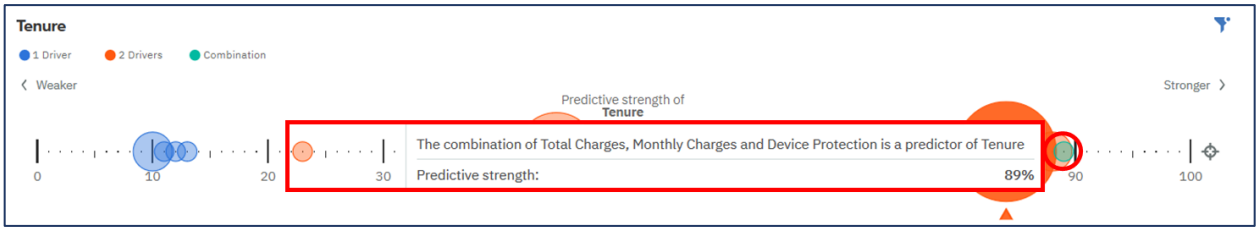
Click the **Largest Orange Bubble.**

As bubbles are selected, the visualization below the key driver analysis will update. This brings into focus the combinations found.

A visualization is available for each for the combinations identified and may be viewed using the selection bar below the visualization.

TECH TIP: *Depending on the fields identified in the driver analysis, Cognos Analytics will generate different chart types in the preview. These may be bar charts, heat maps, bubble charts, or in the case of more than two drivers in combination, a decision tree.*

A **Green** bubble is a Combination of 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, Monthly Charges and Device Protection influence Tenure. However, you don't yet know whether it's low charges or high charges or what type of internet service drive tenure higher or lower.

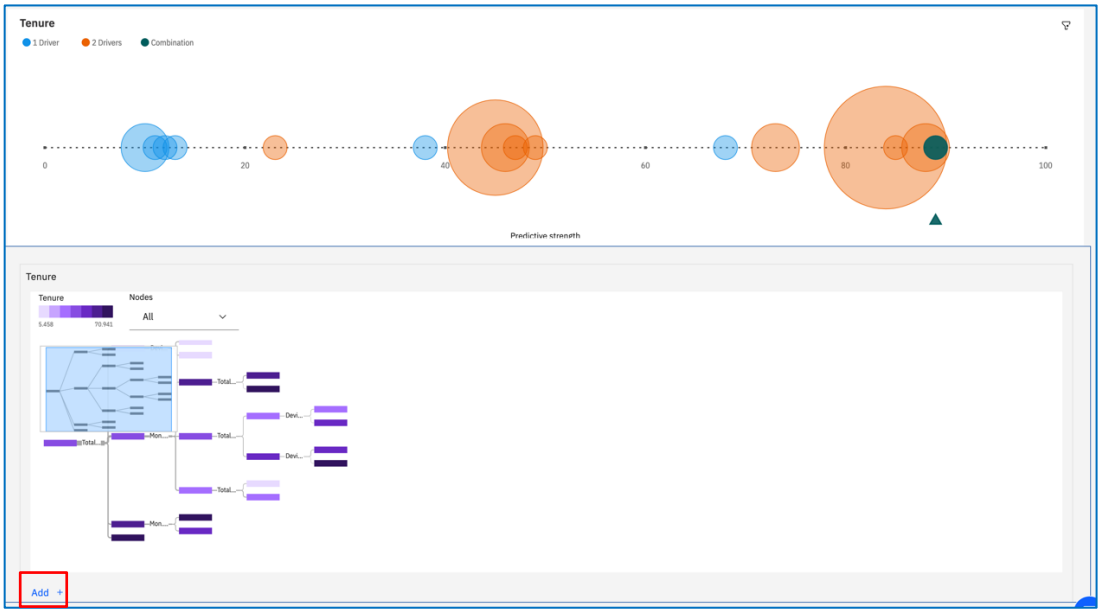
Part 12. Decision Trees

A Decision tree is used to highlight key insights in how underlying data patterns drive the 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.

Click the **Green Bubble**. Since the green bubble represents more than two drivers, the visualization preview renders a decision tree.

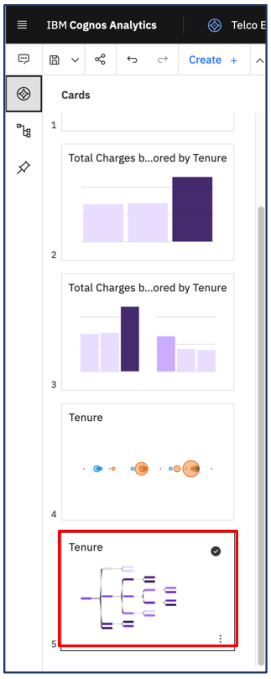
Click the **Add card** button to add the visualization to your Exploration.



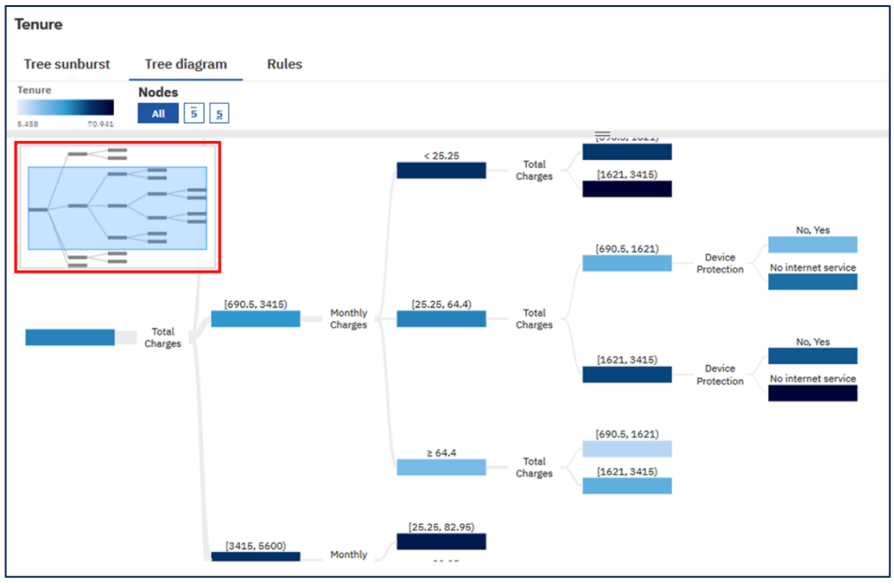
TECH TIP: *To interact with a visualization in Preview, you can click on the visualization or use the Add Card option to add it to your exploration to bring it into the full interactive view.*

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.



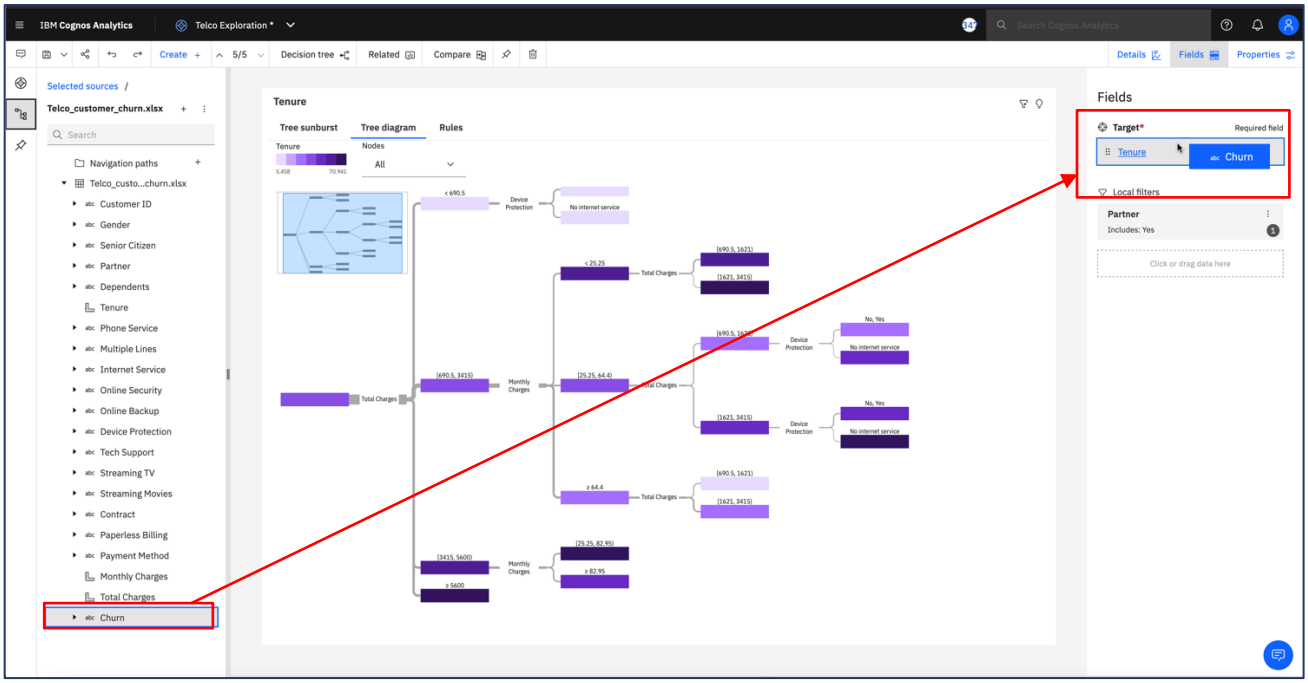
TECH TIP: *Depending on the amount of data to render, and/or your screen resolution, the decision tree may be too large to optimize viewing. In these cases, a thumbnail of the entire decision tree renders in the upper left corner. For the user's reference, a blue highlighted section indicates the section of the decision tree currently in focus on the canvas.*



The box may be moved around to put focus on various areas on the decision tree. The center scroll wheel on your mouse will allow you to zoom in or out on the Decision tree diagram on the canvas.

Click the **Fields** icon on the toolbar to open the panel.

Currently, **Tenure** is set to the Target, but you are also interested in Churn. From the **Navigation panel**, click the **Sources** icon to open the data sources panel. In the data source list, drag **Churn** over to the **Target** data slot to replace **Tenure**.



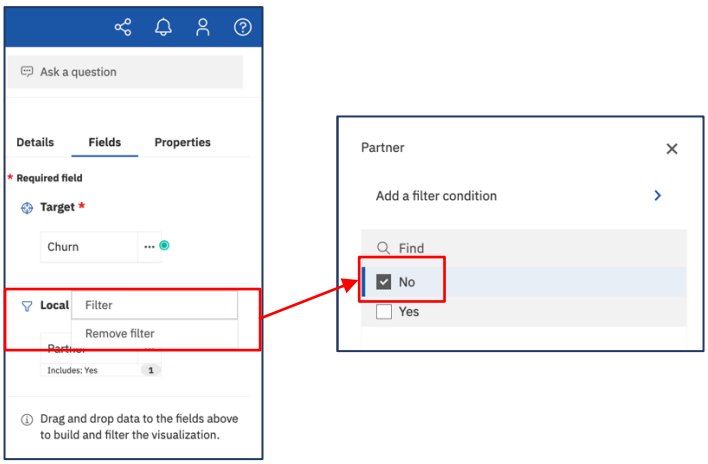
The decision tree updates and you can now see the patterns of drivers related to **Churn** where **Partners** were used (**Partners** includes **Yes**). To read the diagram, you will start with the first driver listed from left to right, **Internet Service.**

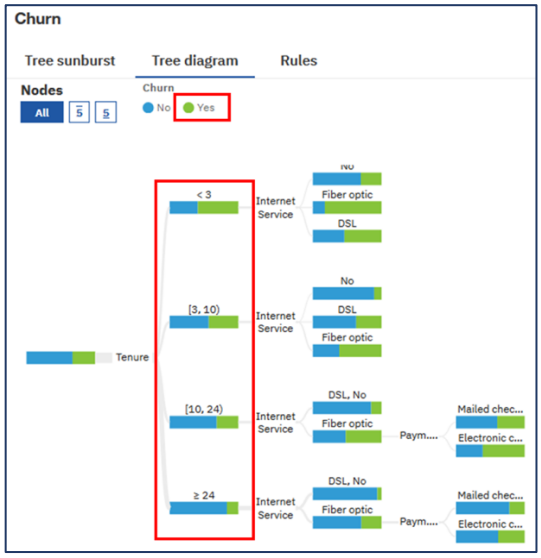
You can easily see that customers with Fiber Optic churn more than those with DSL or no internet. Of those, you can see that customers with less than 16 months tenure are at the greatest risk of Churn. But how does this compare to customers who were not acquired through Partner Contracts? You can easily invert the filter to churn patterns for non-Partner contracts.

Under **Local filters**, click on the **three ellipses**.

Select **Filter** and change the filter selection to **No**.

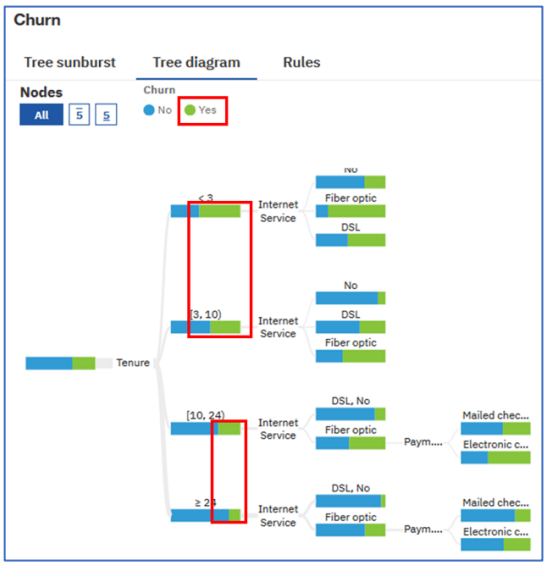
Click **OK**.





The decision tree diagram updates to show the patterns of churn for non-Partner contracts. Use the thumbnail or your mouse scroll wheel to **zoom in/out** if needed.

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

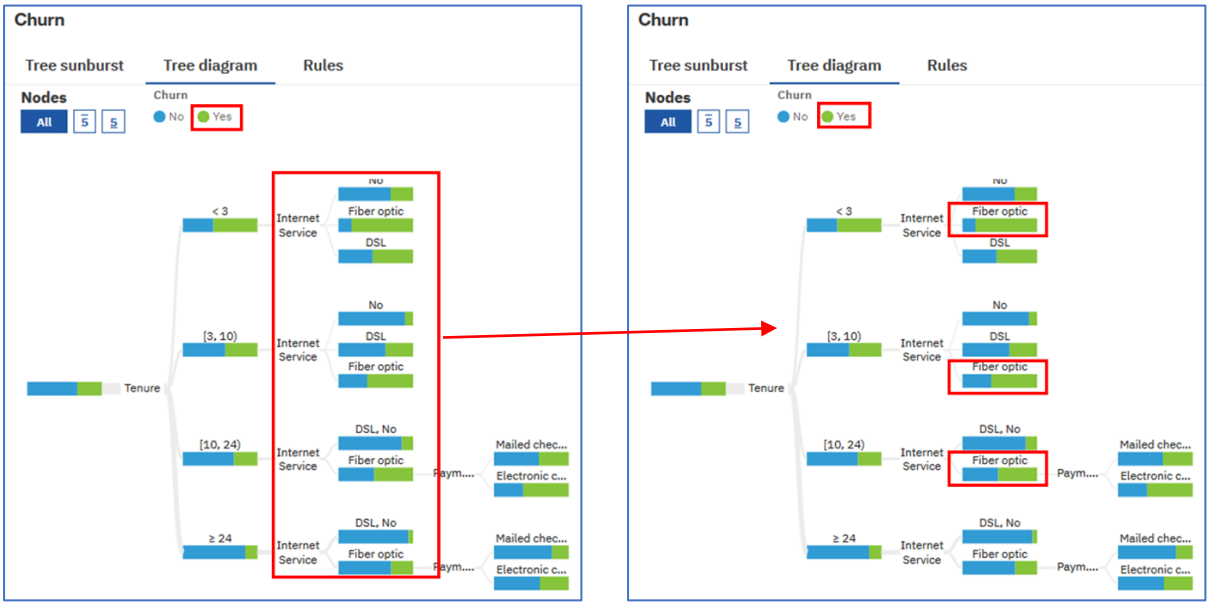


Question: What insight does this give you?

In reading the Decision tree diagram from left to right, you 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 what 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.

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

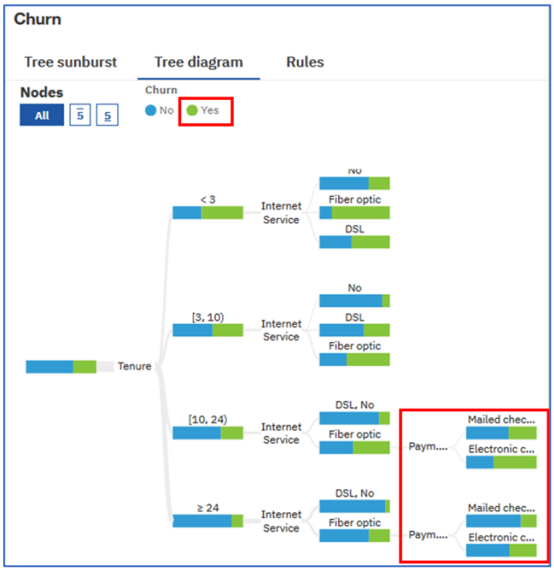


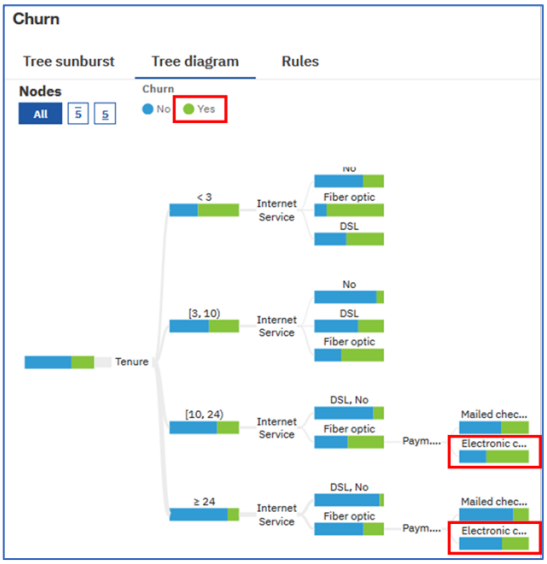
Question: What insight does this give you?

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

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





Question: What insight does this give you?

(HINT: Hover over the bars or use the data tray to view the various Payment Methods)

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.

Part 13. 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 this easy by providing you with the ability to easily slice and dice the top and bottom results. It also lists out the rules in an easy-to-read text format along with predictive strengths for each.

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

The results for the top 5 patterns of customer churn are presented.

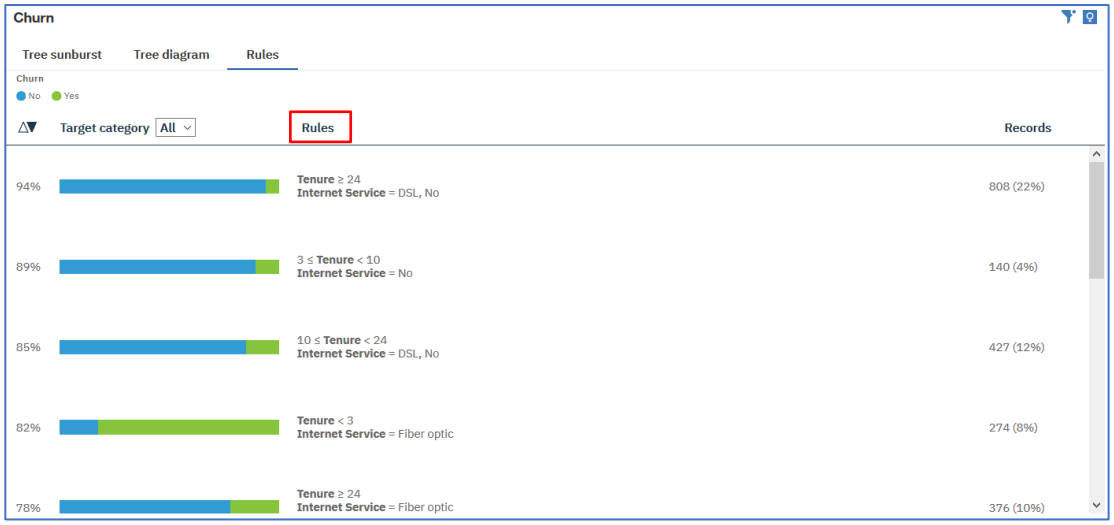
From here, you can see that those most likely to churn are shorter tenured customers, either less than 3 months or those between 3 and 10 months, and those with **Fiber optic** service are at the greatest risk of churning.

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.

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.



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

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.

Save your Exploration.

Summary

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.