Dynamics 365 Customer Insights

Customer Insights in a Day

Hands on Lab Guide

Module 1: Data Ingestion and Unification

V1.3, August 2019

Contents

Feedback

If you have feedback relating to the Customer Insights in a Day content or assets please send to ciadfeedback@microsoft.com.

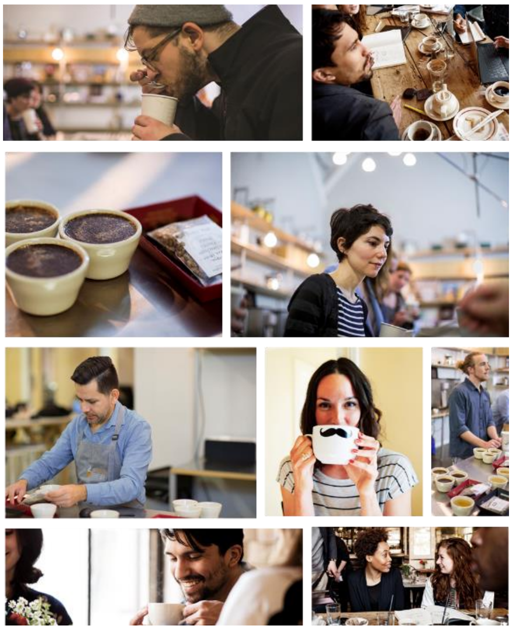
About the Hands-on Lab

Different to traditional approaches for realising a 360-degree view of the customer with a large amount of coding involved, Dynamics 365 Customer Insights (CI) is a finished SaaS solution which allows you to adopt an agile project management approach and deliver value in a matter of weeks.

By attending this Hands-on Lab, you will learn step-by-step how to set up, configure and use Dynamics 365 Customer Insights. To bring this to life, we are looking at a typical customer analytics project for our example company, Contoso Coffee.

We will introduce the business pain points, goals and high-priority use cases that Contoso has identified around their customer data initiative, and then realise a working prototype solution today.

Introducing Contoso Coffee



Contoso Coffee produce high-quality coffee and coffee machines, which they retail through channels including new Contoso Retail Stores in premium locations, premium food resellers and the Contoso Coffee Web Site.

Contoso plan to further expand their offerings with Contoso Cafés and a new Connected Coffee Machine which can trigger refill orders and alert Contoso service about any issues.

This new offering will help them to build direct relationship with their customers and learn more about how customers consume their products

Business Objective

Contoso wish to own and build a meaningful, direct relationship with all consumers to deliver an exceptional, personalised customer experience through relevant communications, personalised recommendations and services.

Increase customer attraction and retention by making customers feel valued through experiences that customers love.

Challenges

Transactional Relationship

Existing business model means that they have lack of direct relationship with their customer.

Data Silos

Unable to deliver personalised customer experiences

Existing Data Landscape

Fractured Customer Data

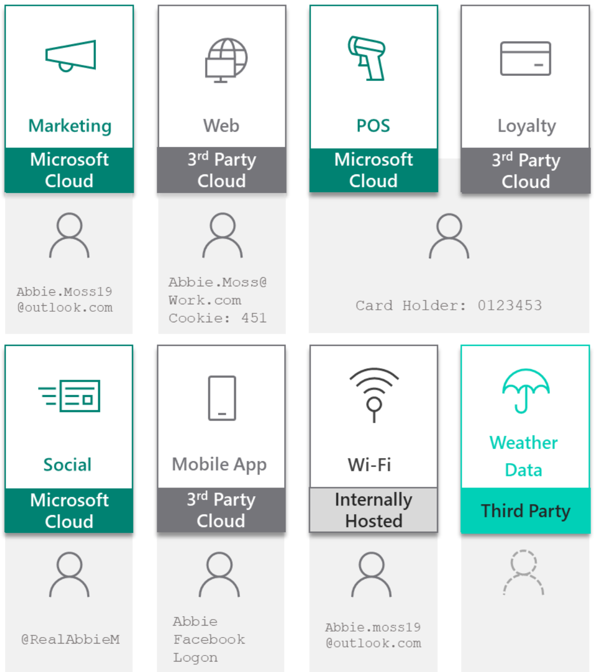
With multiple systems, Contoso has multiple records for the same person. This causes a disjointed experience to the customer who expects to be treated as one person regardless of the channel they are transacting upon.

Multiple Platforms

The architecture at Contoso has evolved through acquisition and legacy systems meaning that data can reside in not only different systems, but different platforms across multiple clouds and on premise.

Non-Customer Data

Contoso are drawing correlations between non-customer data and the impact it has on customer experiences, including data from third parties such as weather data.



Contoso Coffee Customer Insights Project

Contoso management is tasking IT and Line of Business teams with the following:

- Establish a customer data hub combining all customer related data from siloed sources
- Realise a unified Contoso Customer profile
- Calculate engagement score for all channels offered by Contoso
- Target customers with high engagement score for online channels with a focused retention campaign
- Provide a 360-degree view of the customer for service agents (embedded into D365 for Service) as well as store managers (through Power BI)
- Deliver a Contoso Coffee Greeter App, to enable in store retail staff to deliver personalised service and recommendations.

Contoso Coffee Customer Insights Project

You have been selected as the project manager for the implementation of Dynamics 365 Customer Insights at Contoso Coffee. As an experienced project manager, you devise the following plan:

1. Create a Customer Insights environment

2. Ingest data from highest priority data sources from within the business
   a. Point-of-Sale (POS)
   b. Loyalty Data
   c. Ecommerce Customers and Web Purchases

3. Configure and realise a unified customer profile from ingested data

4. Configure business and customers measures in Customer Insights to identify customers with higher than average spend in store and online.

5. Build sample customer segments for Marketers to deliver personalised and targeted marketing communications

6. Configure Customer Insights contact cards and embed into Dynamics 365 to empower Contoso Customer Service Advisors

7. Create Power BI dashboard for Store Managers

8. Create Greeter App with PowerApps for Contoso Coffee retail staff, empowering them to deliver personalised service

9. Use Microsoft Flow to capture Customer check ins at Contoso retail stores and deliver personalised recommendations to Contoso Retail staff

10. Demo CI prototype to group of pilot users and gather feedback

Module One Introduction

Data Ingestion & Unification

As Project Manager for Contoso Retail, you will create a unified customer profile by ingesting key sources of customers data and following the Map, Match and Merge process.

Measure Calculation

You will calculate previously unobtainable key Business and Customer KPIs including Lifetime Spend, Club Points Balance, Average in Store and Average Online Purchase values.

Segmentation

You will create marketing segments to promote Contoso Coffee's new Cold Brew Coffee offering as well as to identify customers with a higher-than-average online spend whom Contoso wish to target with their new subscription and connected coffee machine services. These segments will allow Contoso Coffee Marketing to deliver personalised, targeted marketing journeys for upcoming product launch.

Objectives

- Sign-Up for Dynamics 365 Customer Insights Trial
- Ingest siloed data sources
- Follow Map, Match and Merge to create a Unified Profile
- Calculate key Business and Customer KPIs
- Generate Segments for use by Marketing

Prerequisites

To complete the Customer Insights in a Day course you will need the following

- Dynamics 365 Customer Service Instance or Trial
- Access to PowerApps or a PowerApps Trial
- Access to Microsoft Flow or a Flow Trial
- Access to PowerBI or a Trial
- Customer Insights Trial (Sign-Up within Module 1)

If you do not have access to the above, it is suggested that you create a Dynamics 365 Customer Service Trial via https://trials.dynamics.com/.

Once this is complete, we suggest you add PowerApps, Flow, PowerBI and Customer Insights trials **using the credentials provided.**

- Dynamics 365 Customer Service Trial via https://trials.dynamics.com/
- PowerApps Trial: https://powerapps.microsoft.com/en-gb/
- Flow Trial: https://flow.microsoft.com/en-us/ (Click 'Sign Up Free')
- PowerBI Trial: https://app.powerbi.com/signupredirect?pbi_source=web

Lab 1 – CI Onboarding

In this lab you will sign-up for a Customer Insights instance and review the guided demonstration tour to familiarize yourself with the application.

Task 1 – Sign-Up for Customer Insights Trial

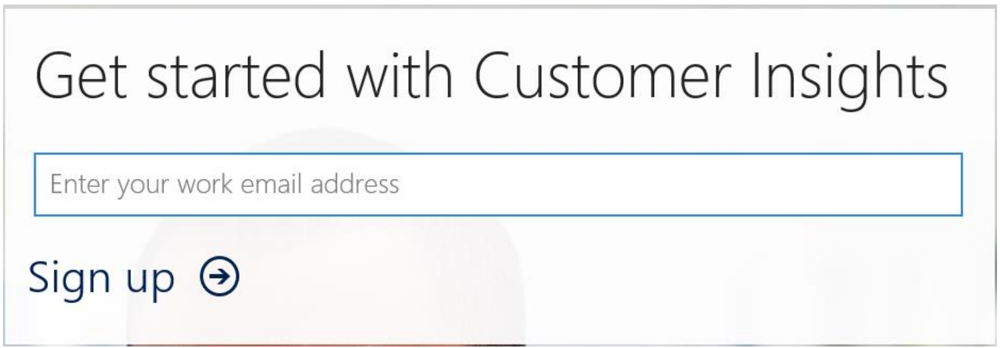
1. Open a browser and navigate to:
   https://dynamics.microsoft.com/ai/customer-insights/

2. Click **Get Started**

3. Under *Prefer to get started on your own?* Click **Sign up for a free trial.**
   Note: If you're a Microsoft Employee or Microsoft Partner, you can access Customer Insights through the PartnerSource and Microsoft Sign-In links on this page.

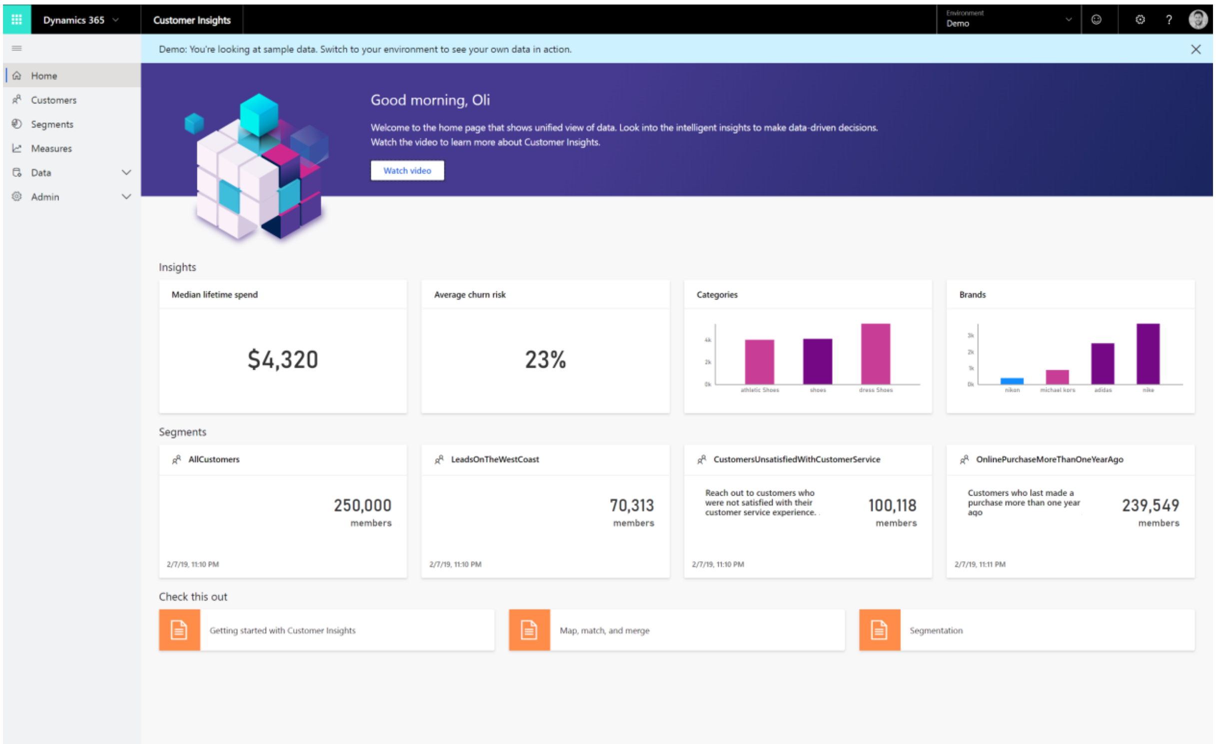
4. On the **Get started with Customer Insights** page, sign-up with your work address.
   Note: this will need to be an address associated with an Office 365 Tenant, within which a Customer Insights Trial will be provisioned.

   If you do not have access to an Office 365 tenant, you can sign-up for a Dynamics 365 Trial (Which will include an Office 365 tenant) as detailed in the pre-requisites.



5. This should progress you to https://home.ci.ai.dynamics.com
   If you're prompted to create a new environment, provide a name and select the region into which you wish to deploy the service.

6. Congratulations! You should be signed into Customer Insights! Note that you will have access to two environments – a Demo environment and the one that you have provisioned.

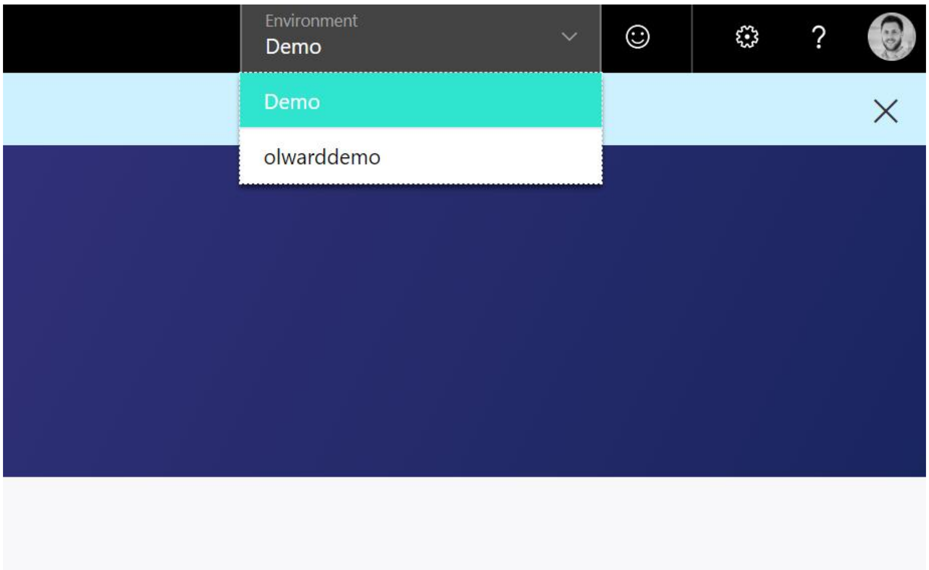


Task 2 – Familiarise yourself with Customer Insights

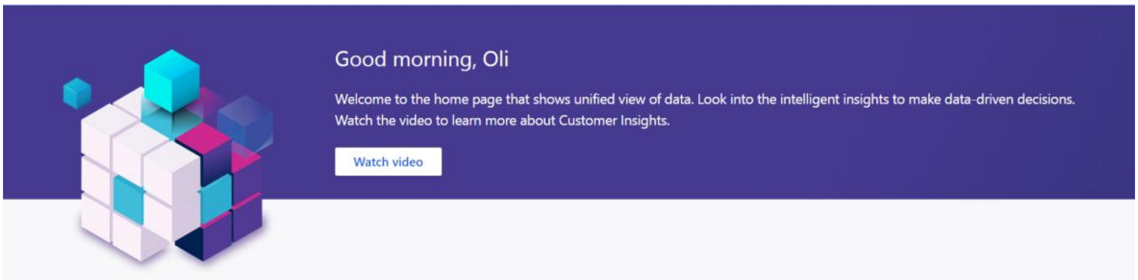
In this task, you will explore the pre-configured **Demo** environment to familiarise yourself with Customer Insights Hub.

1. Sign-into Customer Insights that you provisioned in Task 1 (https://home.ci.ai.dynamics.com)

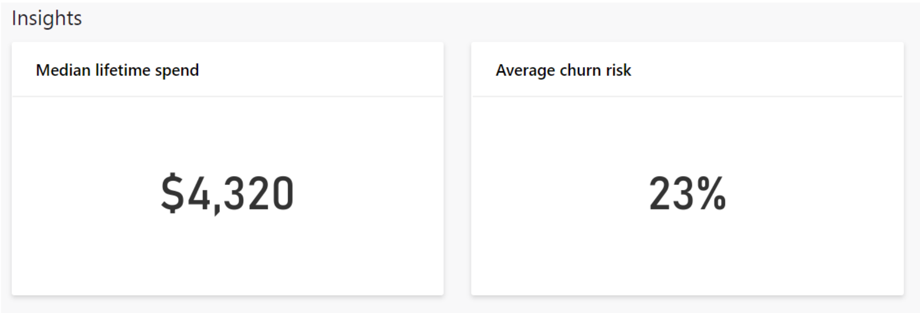
2. In the *Environment* selector in the top right-hand corner, select the **Demo** Enivronment



3. Optionally click **Watch Video** for a 3minute introduction and overview of Customer Insights

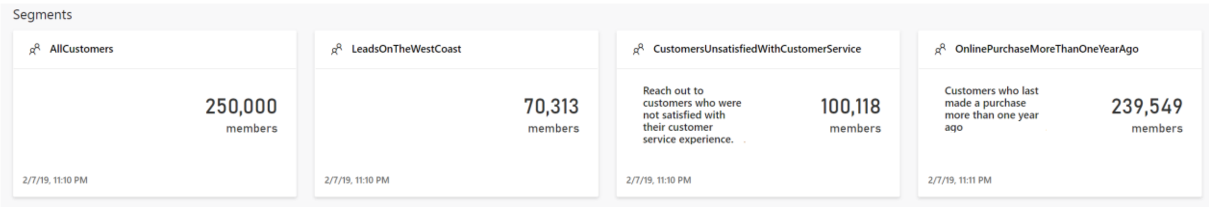


4. On the Home Page, note the content highlights to the user key **Insights**
   - **KPIs** (Business Measures), including Median Lifetime Spend of Customers and Average Churn Risk.

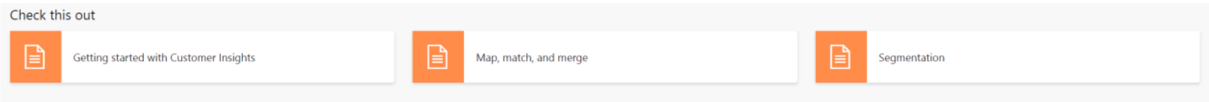


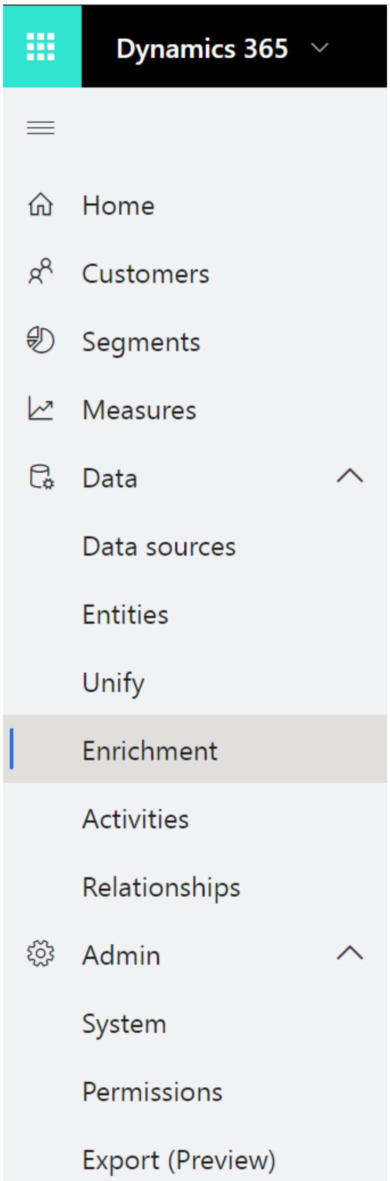
   - **Audience Enrichment** pulled in from Microsoft proprietary data (including Microsoft Bing). Enrich Customer Profiles and Audience segments to unlock affinities for brands and interest categories that may be similar to your customers, by matching demographic data.

   - **Segments** - customers grouped into cohorts based on demographic, transactional, or behavioural customer attributes. Using segmentation, you can target promotional campaigns, sales activities, and customer support actions to achieve your business goals.



- **Check this out:** links to Customer Insights documentation and help on core topics such as data ingestion, Map, Match and Merge and Segmentation





Menu Options – Explore the left menu options to familiarise yourself with the navigation.

Home: Home Page

Customers: View cards for unified Customer Profiles

Segments: Define Segments: Cohorts of Customers based on similar demographic, transactional or behavioural attributes. Use these for targeted marketing, utilising previously siloed data.

Measures: Define key Business and Customer KPIs.
Such as Customer Lifetime Value, Average Purchase Value and Frequency, CSAT and identify high-value customers.

Data: Ingest siloed demographic, transactional of behavioural data and map, match and merge into a Unified Customer Profile. Define activity types and their relationships to your customers.

Enrichment: Go beyond your unified profile and enrich customer profiles with Microsoft Proprietary Data from the Microsoft Graph. Unlock data on affinities for hundreds of brands and dozens of interest-categories. These affinities are extracted for profiles that might be like your customers.

Admin: Administer Roles, Permissions and Export Destinations for Customer Segments.

Lab 2 – Data Ingestion

In this lab you will become familiar with ingesting data from multiple sources.

As Project Manager for Contoso Retail, you have already identified that key sources of data include eCommerce Customers, Online Purchases, in-store Point of Sales Purchases and data from the Contoso Retail Loyalty Card scheme.

Although Customer Insights has connectors to 30+ data sources and applications (including Dynamics 365 & the Common Data Service for Apps), for this lab you will be using the 'Text/CSV' connector.

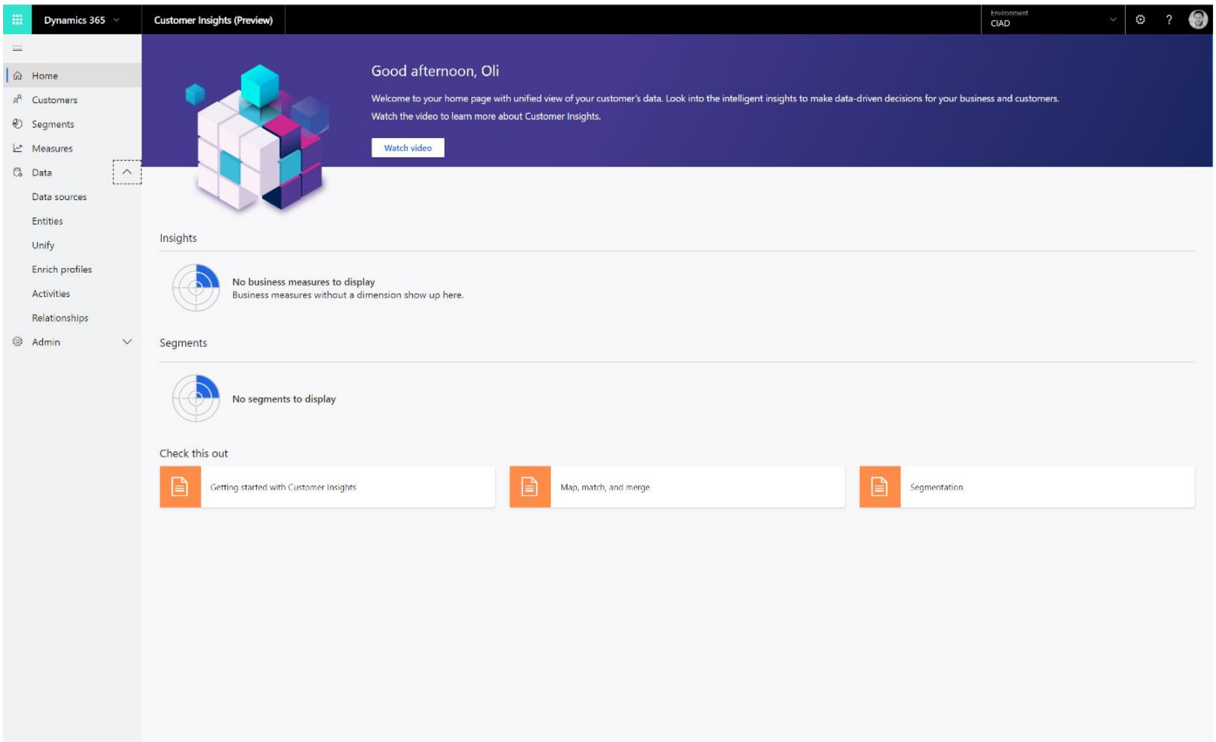
Data Sources

Item	Description	Format	URL
eCommerce Contacts	Extract of Customers who have made an online purchase	Text/CSV	Link
Loyalty Scheme	Extract of Customers who've signed-up for the Contoso Retail Loyalty Card Scheme	Text/CSV	Link
Online Purchases	Extract of purchases made via the Contoso Retail Website	Text/CSV	Link
POS Purchases	Extract of in-store purchase detail	Text/CSV	Link
Website Reviews	Online Website Reviews from customers	Test/CSV	Link

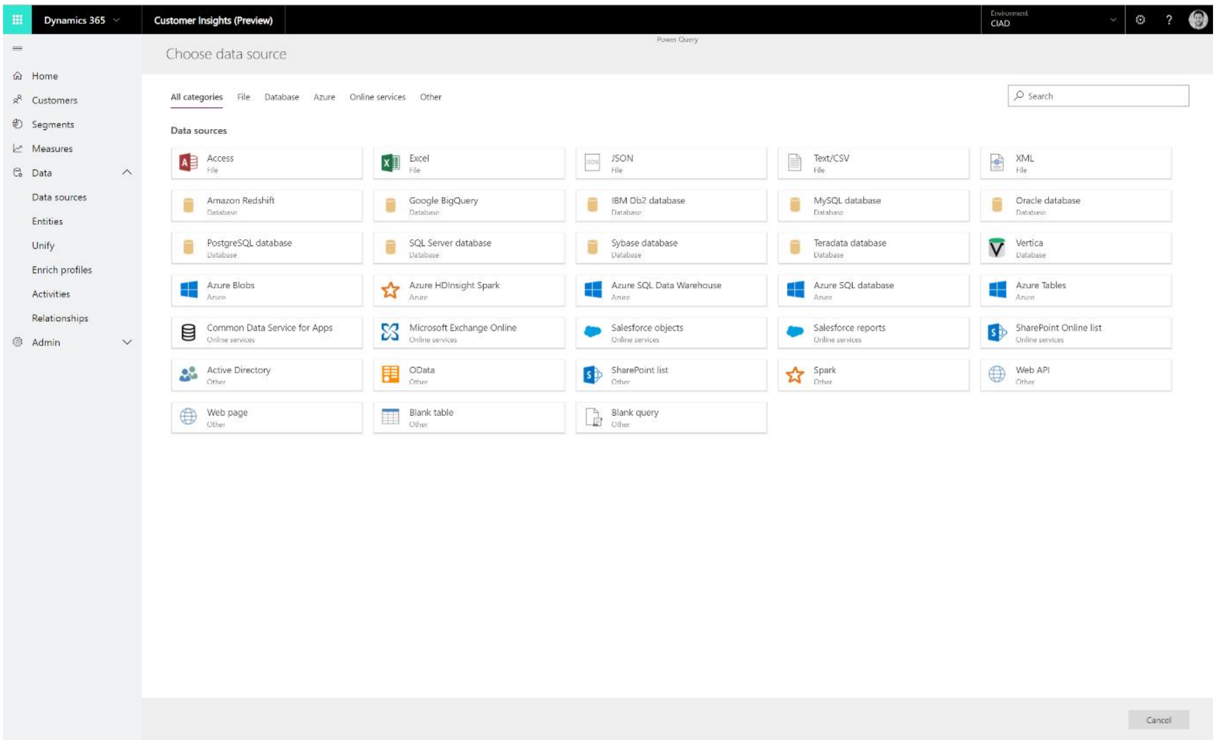
Task 1 – Ingest Customer Data from eCommerce Platform

1. Sign in to Customer Insights and select your Environment from the drop-down in the top right-hand corner. If prompted to create a new environment, do so.

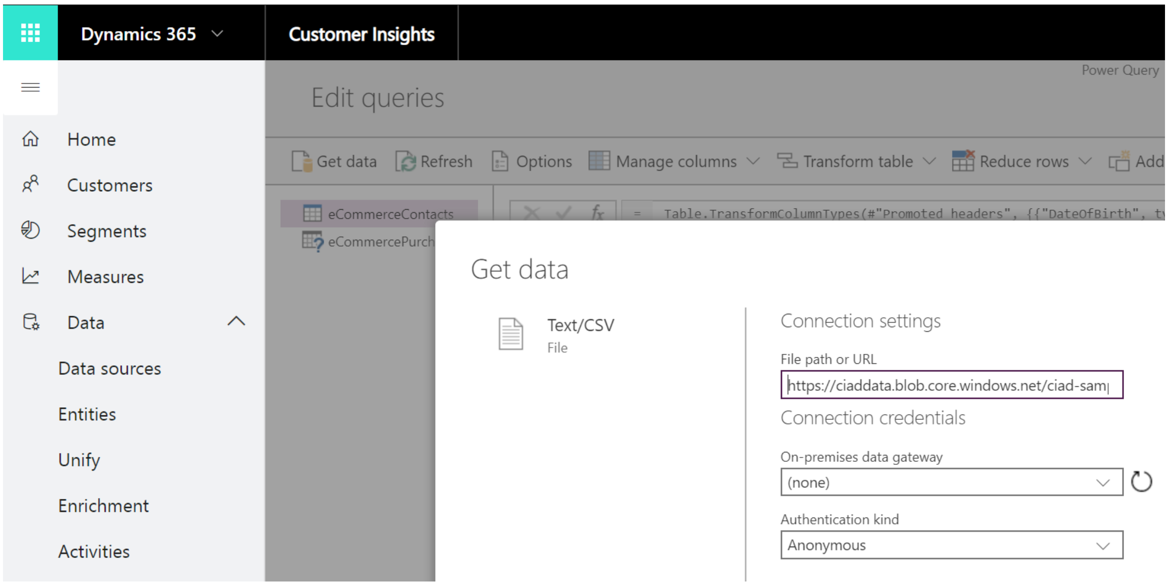
2. Within Customer Insights, expand **'Data'** on the left menu and click '**Data Sources'**



3. Click **'Get Data'** and name the source '**eCommerce**', then click **Next button.**
4. You will be presented with a view of data source connectors that Customer Insights is able to ingest. Take note of the connector types available, including *Common Data Service for Apps*. Select the **Text/CSV** Connector.

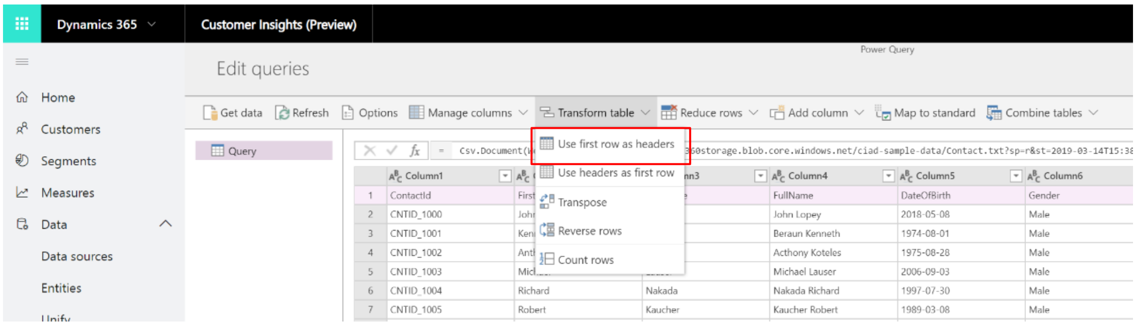


5. Enter the URL for the Azure BLOB named ['eCommerce Contacts'](#) and click '**Next**'. You can find the URL in the table under the introduction to this lab.



6. You should now see the data from the source tabulated. Here you can configure the datatypes and formats for the data you ingest.

   You will notice that the column heading has appeared in the first row of the data. To correct this, click **Transform Table** and then **Use First Row as Header.**



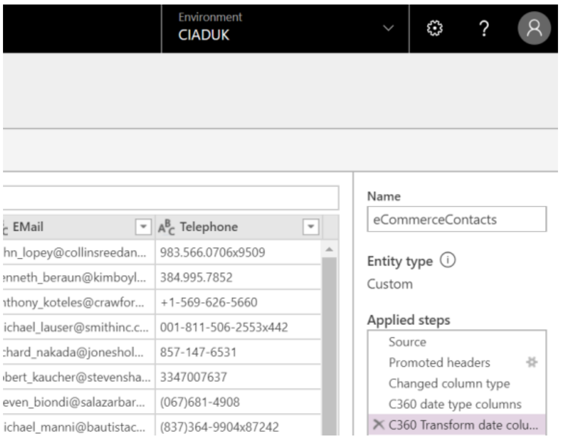
7. Because we have ingested data from a Text/CSV source, all columns have been defaulted to a 'Text' Data Type. To successfully ingest and model the data, we can set the datatype for non-text columns.

   To change the datatype, click the **ABC** icon within the column heading.

   Update the datatype for the columns listed below.

Column Heading	New Data Type
DateOfBirth	DateTime
CreatedOn	Date/Time/Zone

8. In the 'Name' field on the right-hand pane, rename your data source from **Query** to **eCommerceContacts** and then click **Create** to create and ingest your data!

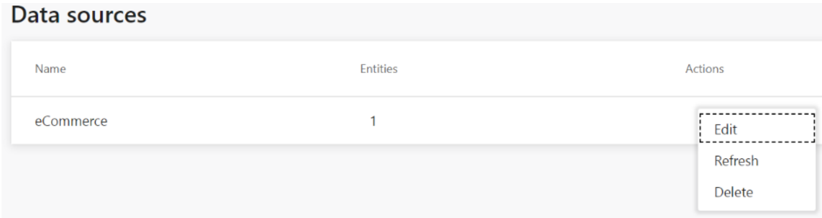


Congratulations! - You have now successfully ingested your first data source into Customer Insights.

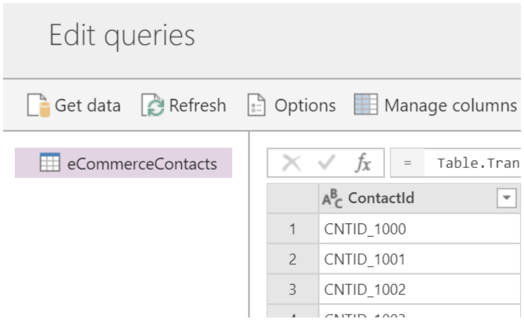
Task 2 – Ingest Online Purchase Data

In this next task, we will ingest Online Purchase data, representing purchases made via the Contoso Coffee website.

1. Within Customer Insights, Expand **'Data'** on the left menu and click '**Data Sources'**
2. You should see your **eCommerce** datasource. Under **Actions** click the three vertical dots and choose **Edit.**



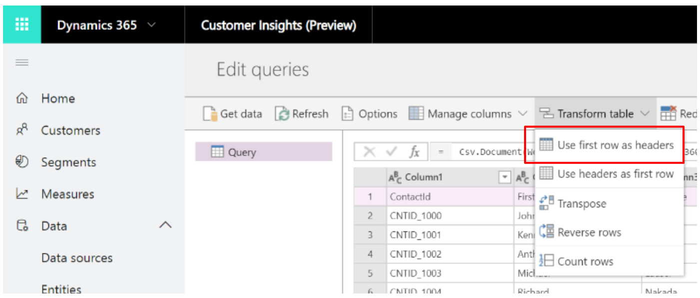
3. You should be presented with the view of the eCommerceContacts data that you ingested in Task 1. In the action menu, click **Get Data.**



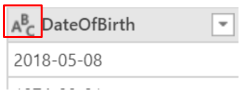
4. You will be presented with a view of data source connectors that Customer Insights is able to ingest as you were in Task 1. Select the **Text/CSV** Connector.

5. Enter the URL for the **Online Purchases** data and click **'Next'.**
   You can find the URL in the table under the introduction to this lab.

6. As you did in Task 1, you need to **Transform Table** to **Use first row as headers.**



Once complete, update the datatypes for the following columns



Column Heading	New Data Type
PurchasedOn	Date/Time/Zone
TotalPrice	Currency

7. Name your query **eCommercePurchases** and click **Create**

Task 3 – Ingest Customer Data from Loyalty Scheme, Point of Sale Purchases and Website Reviews

1. Create a new Data Source named **LoyaltyScheme** (Click **Data → Data Sources → +Get Data**)

   Repeat steps 2 - 7 from Task 1 for the remaining data sources using the naming and datatypes as detailed below:

   - Ingest '**Loyalty Scheme'** as a new Data Source and name your query **loyCustomers**
     Use first row as column headings.

Column Heading	New Data Type
DateOfBirth	Date/Time
RewardPoints	Whole Number
CreatedOn	Date/Time/Zone

2. Create a new Data Source named '**PoS**' (Click **Data → Data Sources → +Get Data**)

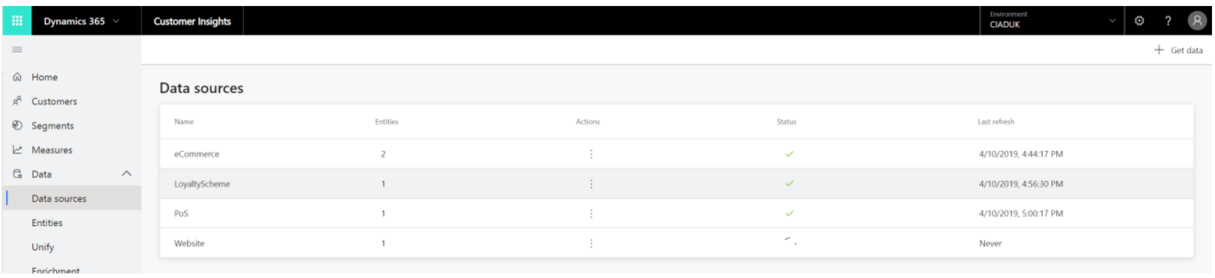
   Ingest **POS Purchases** and name your query **posPurchases.** Use first row as column headings.

Column Heading	New Data Type
PurchasedOn	Date/Time/Zone
TotalPrice	Currency
RewardPointsAdded	WholeNumber

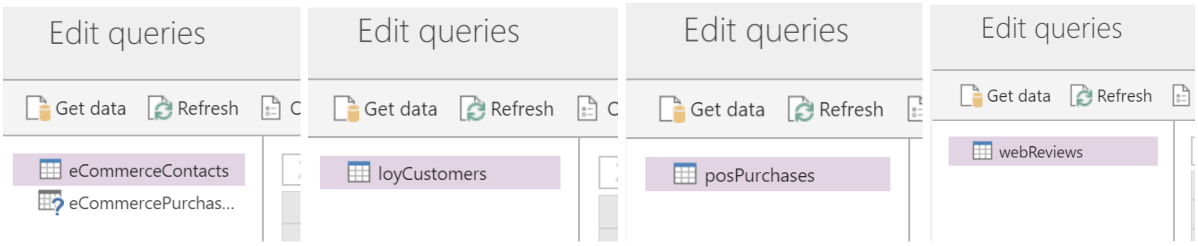
3. Create a new Data Source named '**Website'** (Click **Data → Data Sources → +Get Data**). Ingest **Website Reviews** and name your query as **webReviews.** Use first row as column headings.

Column Heading	New Data Type
ReviewRating	Whole Number
ReviewDate	Date/Time/Zone

4. Once all sources are ingested, you should end-up with four data sources as below.



The data sources should contain the queries as displayed below.



Lab 3 – Data Unification

Having ingested the raw data from your data sources into 'entities' you will now begin the **Map → Match → Merge** process to create a single **Unified Customer Profile** by merging data from each customer profile source.

To do this you will first map your ingested entities against a standard model and select the Primary Key for each of your profiled entities. Following the completion of this you will then create your 'Match Rule' that will be used to match eCommerce customers with Loyalty Customers.

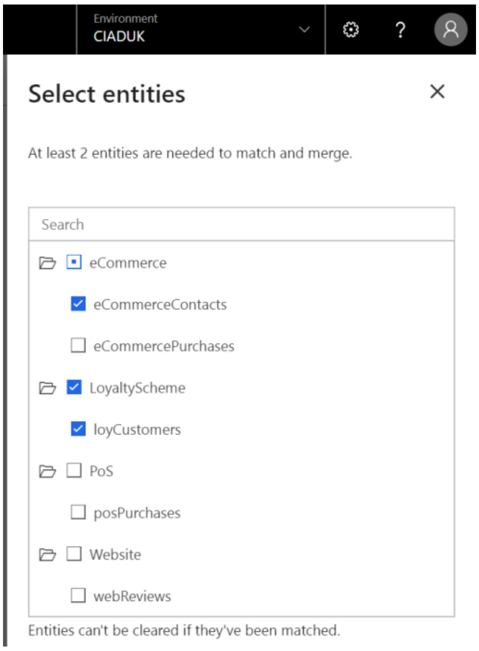
Finally, running the 'Merge' process will create a single set of unique 'Customers' having matched profiles from eCommerce and Loyalty customer data using your match rules.

Your objective is to find out how many unique customer profiles Contoso Retail has across eCommerce and Loyalty data.

Task 1 – Map contacts from eCommerce and Loyalty to common data types.

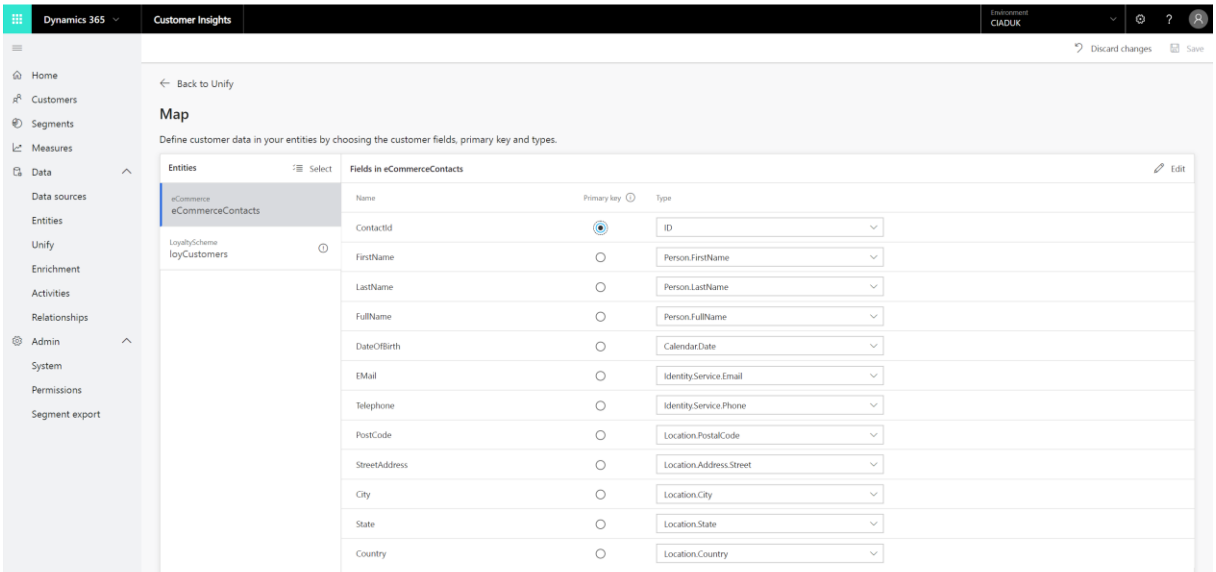
1. Map contacts from eCommerce and Loyalty data to common data types.
   In the left menu click **Unify → Map → Select Entities**

   Select the entities that represent the customer profile – **eCommerceContacts** and **loyCustomers** then click **Done.**

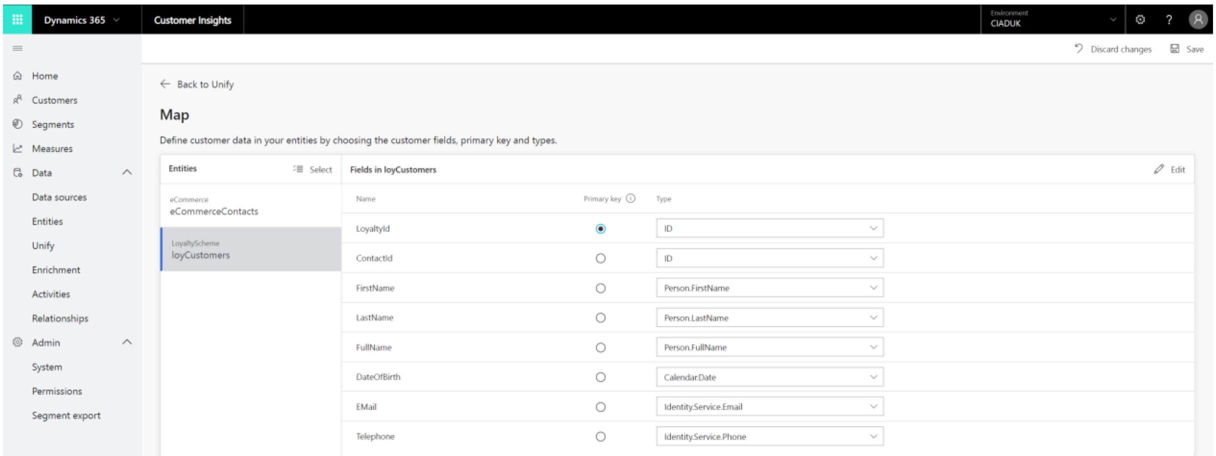


2. You will now be presented with the mappings of your source entity against standard model types. You can review the types in the table.

You must choose a ‘Primary Key’ for each entity you have ingested. The primary key must be a unique reference. For **eCommerceContacts** select **ContactId** as the Primary Key.



3. Select **loyCustomers** under ‘Entities’ and set **LoyaltyID** as the Primary Key column. Then click **Save** in the top right-hand corner.



4. Click **Back to Unify** in the top left corner to return to the Map → Match → Merge page.

Task 2 – Specify Match Order

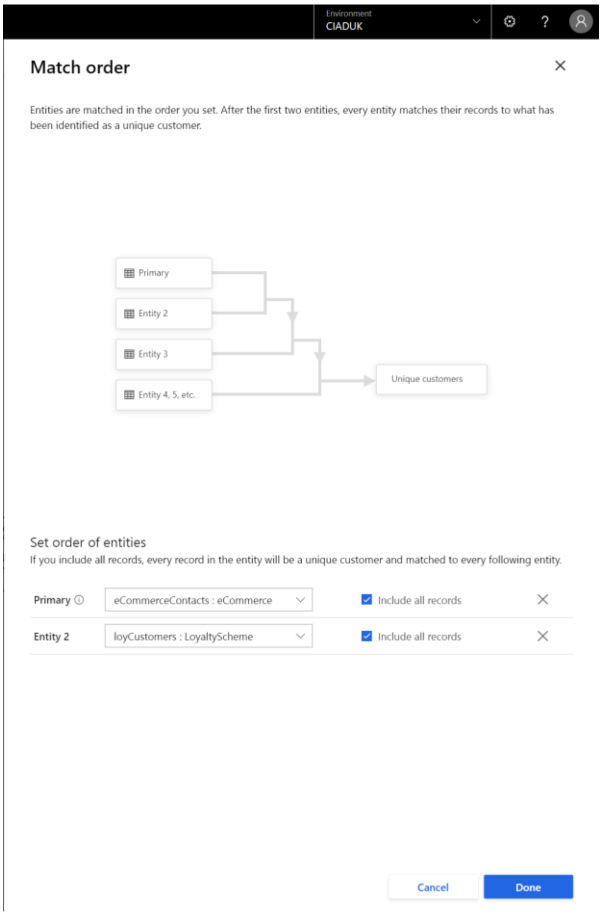
For the next stage, we must select the order in which to merge the profiles. You will be able to merge attributes to ensure that the unified profiles are complete as well as the priority of which sources to use for those attributes.

1. If you haven't already, Click **Back to Unify** in the top left corner to return to the **Map → Match → Merge** page. (You can alternatively, reach here by click **Unify** under **Data** within the left hand menu

2. You should select the most complete or accurate profile source as the Primary. Click Match → Set Order

3. In the **Primary** drop-down list select **eCommerceContacts : eCommerce** as the primary Source and choose to **Include all records**

4. In the **Entity 2** drop-down list select '**loyCustomers : LoyaltyScheme'** and choose to include all records.



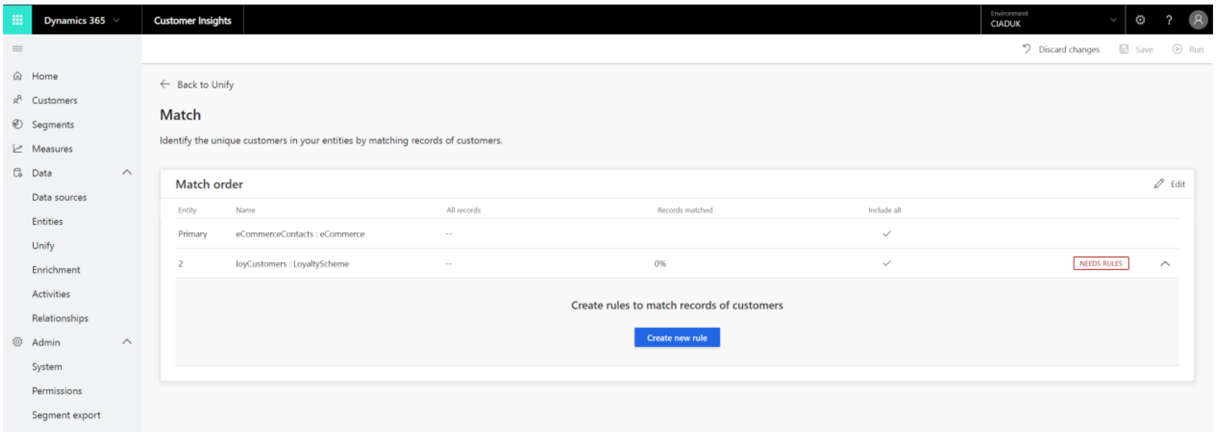
5.Then click **Done.**

Task 3 – Create a Match Rule

In this step, you will create a simple rule used to match records together. Rules can consist of single (e.g. based on ID) or multiple conditions (e.g. Full Name, Postcode, Date of Birth).
For this exercise you will create a match rule based on Full Name, Postcode and Email.

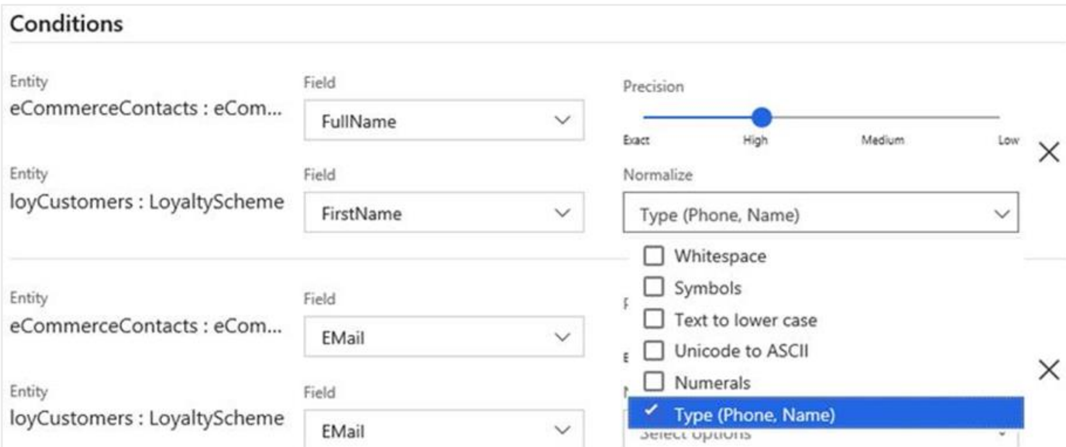
For further details on Match Rules, please see [Customer Insights](#) [documentation](#).

1. Click **Create new rule**



2. Enter the name **FullName, Email** for the new rule.

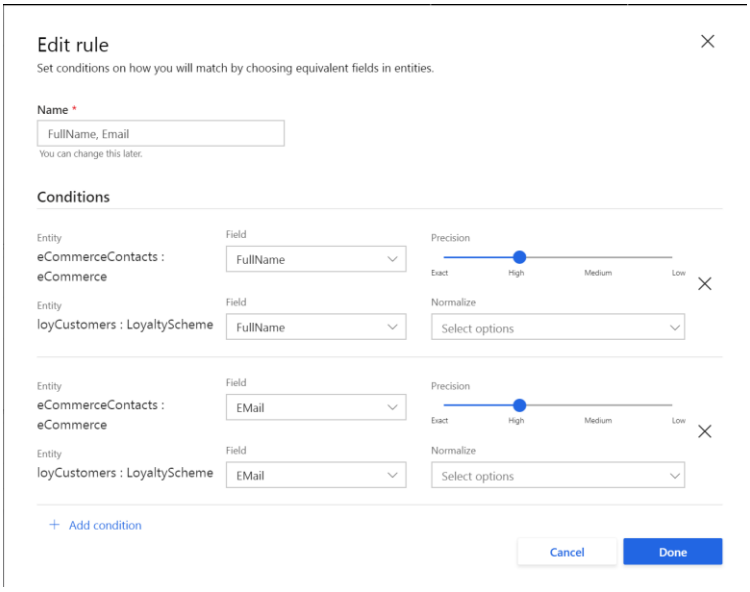
3. Add your first condition using FullName
   - entity eCommerceContacts select **FullName** in Field drop-down
   - For entity loyCustomers select **FullName** in Field drop-down
   - Set Precision to **High**
   - Click the **Normalize** drop down and select **Type (Phone, Name)**. This will normalise the values within the name Full Name field.



4. Add a second condition for email address by clicking **Add Condition**
   - entity eCommerceContacts select **Email** in Field drop-down
   - For entity loyCustomers select **EMail** in Field drop-down
   - Set Precision to **High**

Notes on Precision - Exact, on the left-side of the scale, will match records where your condition has an exact match. Select one of the other levels to match records that are not 100% identical. **High** fits cases where precision is more important than reach, such as a financial service to a specific customer. **Low** fits cases where the opposite is true, such as a marketing campaign. The Medium level serves as a middle-ground option.

Your match rule should now appear like the below. Click **Done.**



5. In the top right hand corner click **Save** and then **Run.**

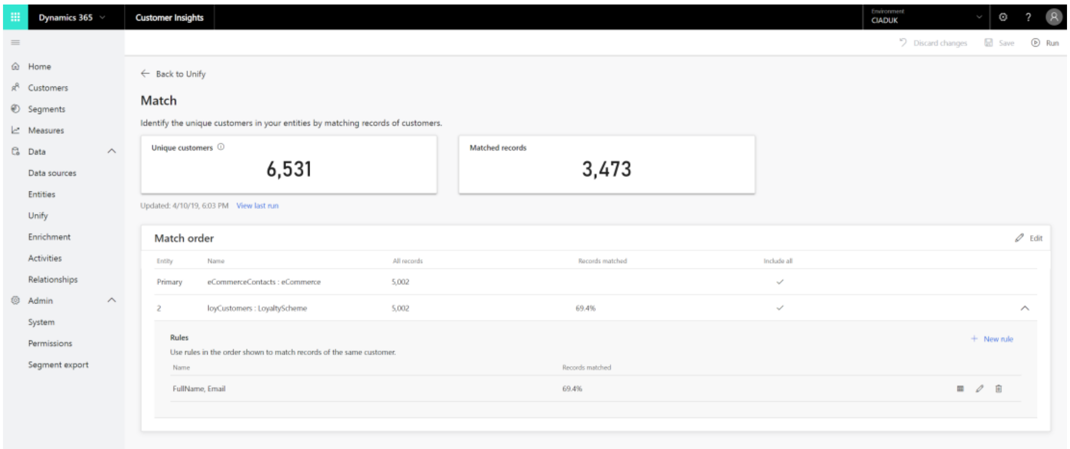
Customer Insights is now matching customer data from your two sources of customer information - eCommerce Contacts and Loyalty Scheme customers to identify how many unique customer profiles you would have based on your rules

How Many Unique Customers do you have when combining your two datasets?

Task 4 – Precision

In Task 3, we used **High Precision** in the match-rule against Full Name. In this task, you will adjust the precision level, to create a higher number of matches, by including matches of a lower confidence (resulting in lower number of unique profiles).

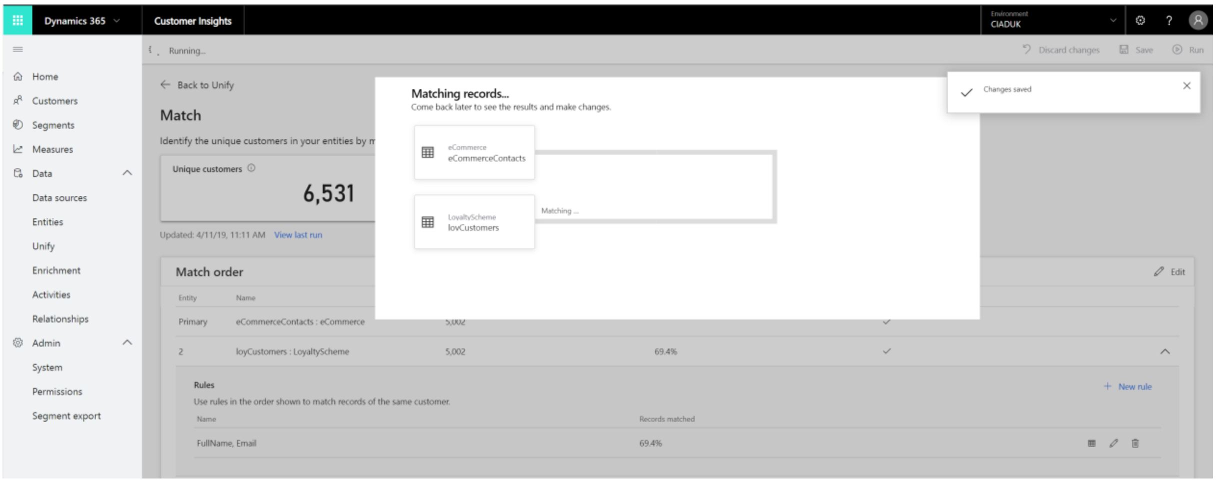
Notes on Precision - Exact, on the left-side of the scale, will match records where your condition has an exact match. Select one of the other levels to match records that are not 100% identical. **High** fits cases where precision is more important than reach, such as a financial service to a specific customer. **Low** fits cases where the opposite is true, such as a marketing campaign. The Medium level serves as a middle-ground option.



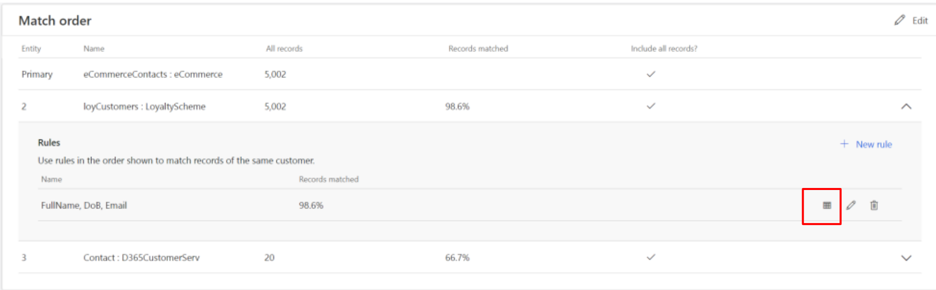
1. Expand your rule and click the to edit the 'Match' Rule.

2. Move the Precision slides for your FullName match from **High** to **Low.** Then click **Done.**

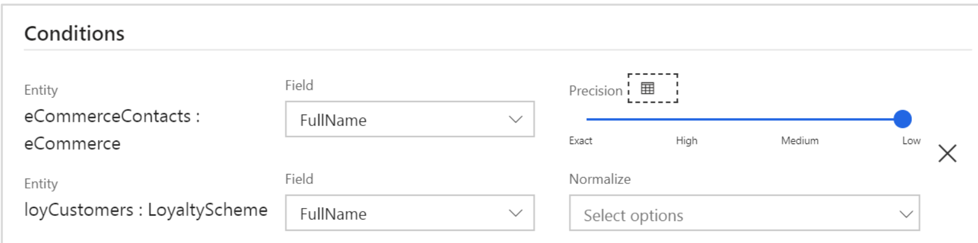
3. Click **Save** and then **Run.**



4. Once the match process has completed, click the icon, to view a **Match Preview** of the match results and the **Confidence Score** as to how certain Customer Insights is that they are a match based on the rules you have defined. – You will notice that some profiles have been created with a low confidence of matching.

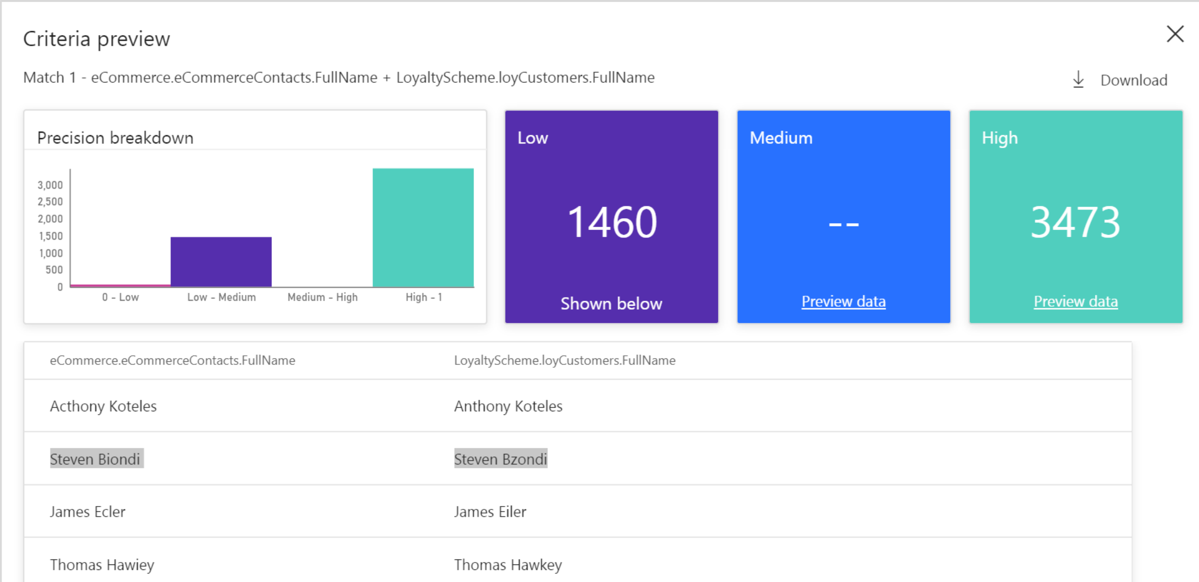


5. Close the preview and click the to edit the match rule. Click the icon next to **Precision** for your **Full Name** Match Rule



6. Here you can preview the number of High and Low confidence matches for your full name criteria. This shows that you should have 3473 high confidence matches and a further 1460 low confidence matches.

   Click **Preview Data** under **High** or **Low** to preview the matches. Notice how High Confidence uses exact spelling but can match even if the name format (First Name, Last Name / Last Name, First Name) is different. With Low confidence, notice how matches are made even when names are not spelt identically.



7. Close the Criteria Preview page.
   How many Unique Customer Profiles do you have now?

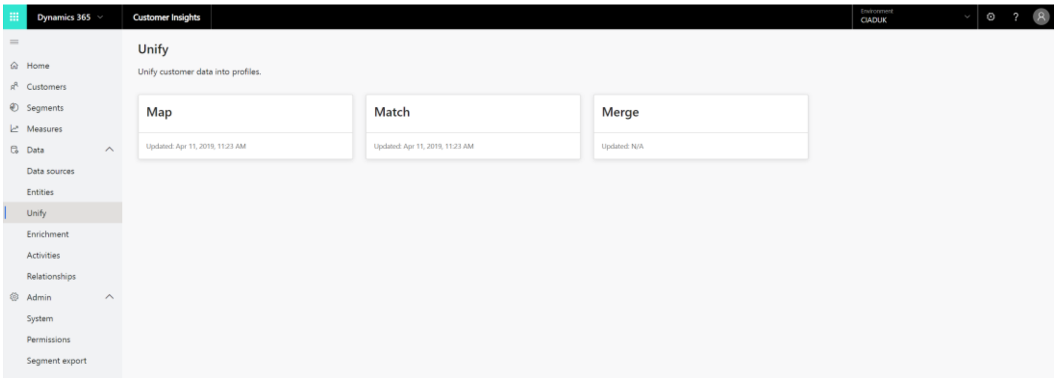
Task 5 – Merge

The merge phase is the last phase in the data unification process. Its purpose is reconciling conflicting data and to define the attributes that will be used in your unified customer profile.

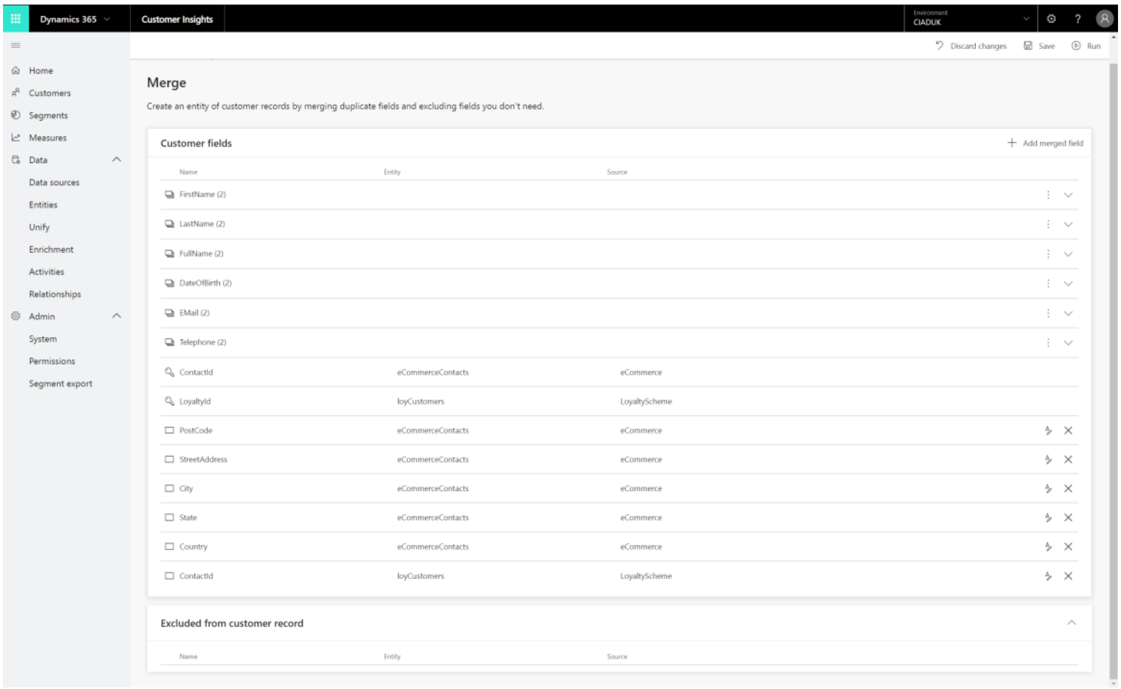
A Merged attribute is an attribute that exists in more than one data source and represents the same piece of data. For example, we may have 'Email Address' in both Web Customers and Loyalty Customer data sources.

Customer Insights will attempt to identify attributes to be merged using their mapping to the standard data types we used in the 'Map' stage.

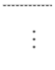
'From the **Match** screen, click **Back to Unify** to return to the **Map → Match → Merge** screen.

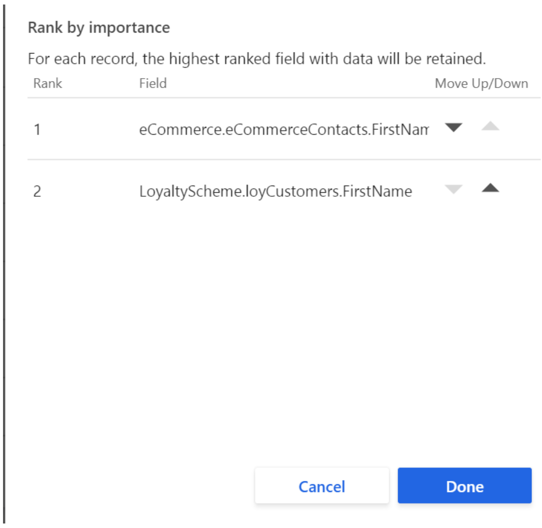


1. Click **Merge.**
   You will be presented with the **Merge** screen. Note that attributes from both the Customer Loyalty and eCommerce Contacts that are of the same type (e.g. First Name) have been defined as 'Merged'.



2. Click the  chevron on the 'FirstName' merged attribute. You should see that the FirstName attribute in eCommerceContacts is ranked number 1. This denotes that where you have a matching customer profile in both Loyalty and eCommerce, the First Name taken from eCommerceContacts will be the primary.

3. Click the  button on the row for the FistName merged attribute and click **Edit.** Note that you're able to change the display name and **importance rank** for the merged attribute. The **Display Name** is the name that will be used in the Merged Profile.



Click **Cancel.**

4. Note that the Primary Keys from the original sources cannot be merged. For example we have a **ContactId** as the primary key from eCommerceContacts, but also have **ContactId** from the Loyalty Scheme Customers data.

   As these represent the same item of data, we can exclude the ContactId from the loyalty data from the unified profile.

   On the **ContactId** for **loyCustomers** Entity, click the edit button to rename the Display Name to ContactIdLOYALTY to differentiate the item from the other IDs ingested.

5. Click **Save** and **Run** to start the Merge Process.

Congratulations! You have successfully Ingested, Mapped, Matched and Merged data from multiple sources within Customer Insights to create a Unified Customer Profile that can be used to gain insights into your whole customer base!

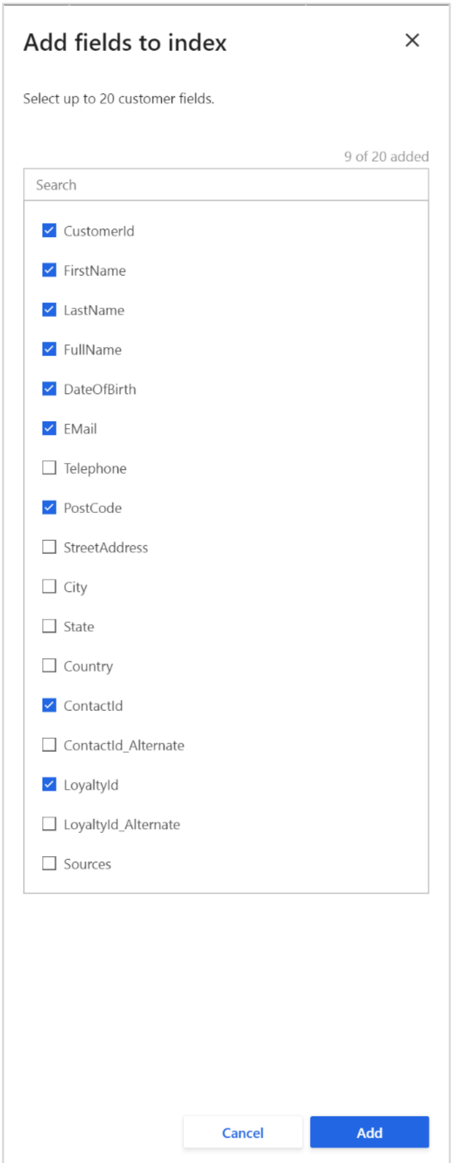
In the next Lab, we will setup the Search and Filter criteria so that you are able to search your profile and consume them from external applications.

Lab 4 – Customer Search

In Lab 3 we completed the **Map → Match → Merge** process to result in a unified customer profile.

In this lab we will setup Search and Filter criteria to enable Customer Insights users to search for unified customer profiles so that you can quickly pull information on a specific customer or group of customers.

Task 1 – Configure the Search Columns and Filter Index



1. Click **Customers** in the left menu bar

2. Click **Go to Search & Filter Index**

3. Click **Add Fields**

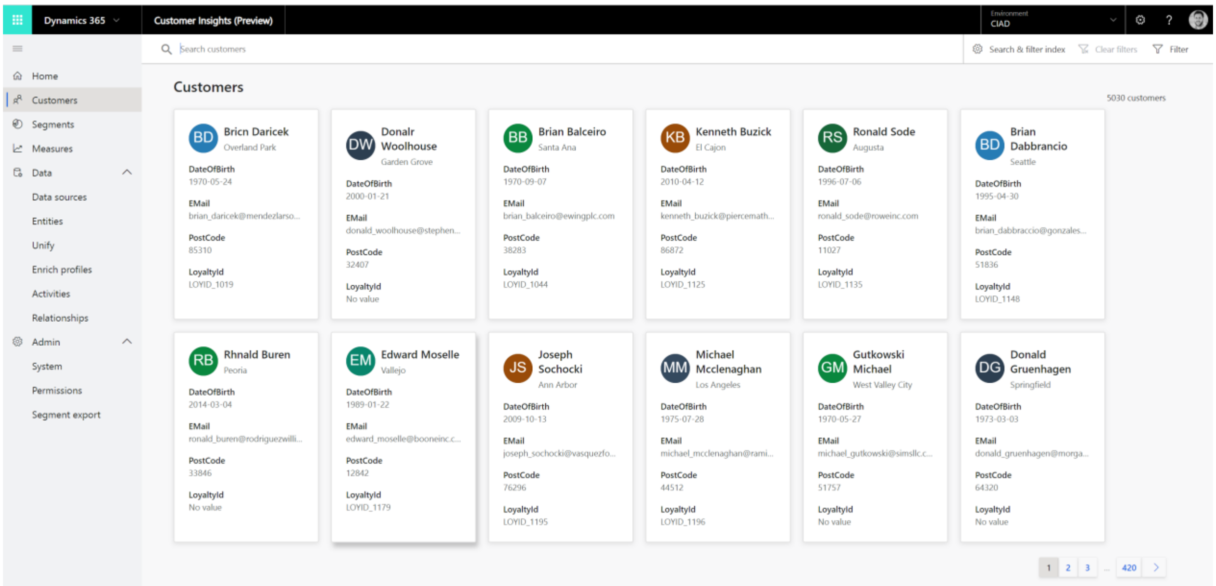
4. Here you can select the attributes that will indexed and used when searching for a Customer profile.

   Select **CustomerId**, **First Name, Last Name, Full Name, DateOfBirth, Email, PostCode, ContactId** and **LoyaltyId**

5. Click **Save** and **Run**

Task 2 – Search for a Customer Record

1. Click **Customers** in the left menu bar. You should now be presented with a set of 'Customer' cards, representing the Unified Profiles.



2. You can use the search bar to search for **Text attributes** relating to unified customer profiles. E.g. Searching '**24502**' will search against all text attributes and return matches and partial matches.

   Use the search bar to answer the following questions.

   - What is Brian Gobble's Date of Birth?
     (Search with value 'Brian Gobble')
   - Which customer has Loyalty Card ID LOYID_5707?
     (Search with value 'LOYID_5707')
   - Which customer has a postcode of 24502?
     (Search '24502')

Lab 5 – Measure Calculation

Measures enables you to define all the key performance indicators (KPIs) that best reflect your specific business performance and health. Measures can either be customer-related measures such as Lifetime Value or business-health measures such as Monthly Active Users.

Customer Insights provides an intuitive experience to build different types of measures, with a query-builder wizard that doesn't require the user to manually code or validate the query.

Measures are calculated on a series of interactions that a company has with a customer, gathered from multiple data sources. Interactions are any customer touch points – these could include purchases, customer service cases, emails, phone calls, branch visits. In other scenarios interactions could also be data gathered from connected devices, withdrawals or deposits in banking, entry/exist of a premises or area etc.

Contoso Coffee are looking to uncover six simple **Measures** based on the data ingested, that will help them to identify high-value customers and their preferred purchase method (Online or Instore)

Business Measures:

- **Average Store Purchase Value ($)**
- **Average Web Purchase Value ($)**

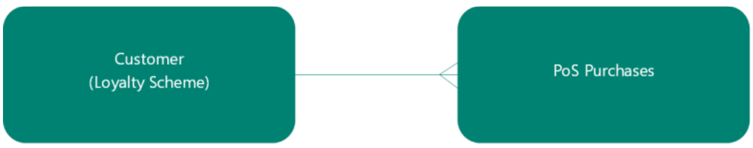
Customer Attribute:

- **Lifetime Spend ($)**
- **Total Club Points**
- **Average Store Purchase ($)**
- **Average Web Purchase ($)**

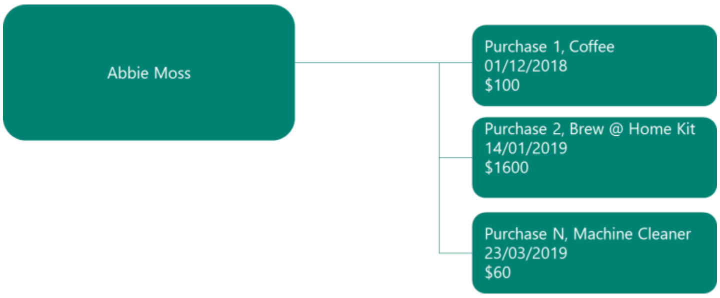
Relationships

Before creating a measure, we need to understand the purchases made by a customer both online and instore. To do this we need to define the relationship between Purchases (made online and in store) and the Unified Customer Profile.

Relationships help you connect entities and generate a graph of your data. Relationships are used when entities share a common identifier (foreign key) that can be referenced from one entity to another. Connected entities enable you to define segments and measures based on multiple data sources.



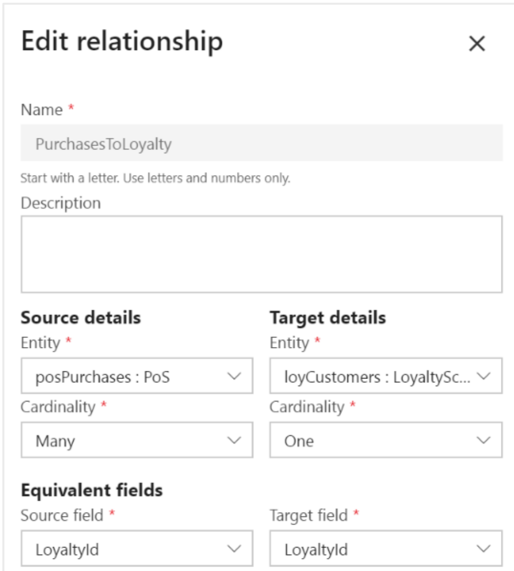
For example, Customer has a One to Many relationships with PoS Purchases. (One loyalty scheme customer may make multiple purchases). – This is an example of the relationship we will be defining.



Task 1 – Define the Relationship between Loyalty Scheme Customers and PoS Purchases

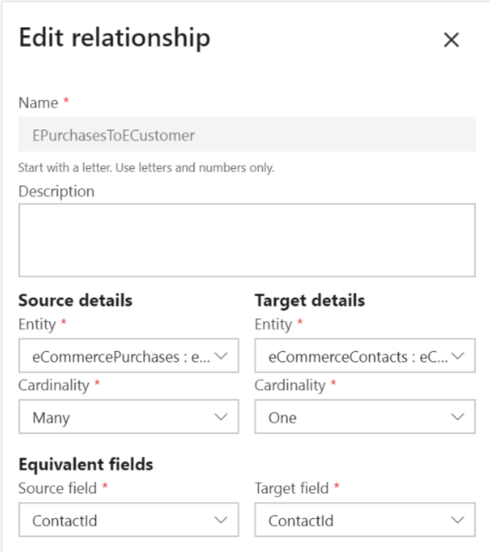
Define the relationship for CustomerPurchasesPOS

1. Under **Data** within the left hand menu, click **Relationships** in the left-navigation menu
2. Click **New Relationship**
3. Name the relationship **PurchasestoLoyalty**
4. In **Description** add **Point of Sale Purchases to Loyalty Scheme Customers**
5. Set **Source** details entity to **posPurchases: POS** and **Cardinality** to **Many**
6. Set Target details entity to **loyCustomers: LoyaltyScheme** and Cardinality to **One**
7. Set equivalent fields to **LoyaltyId** for both Source field and Target field
8. Click **Save**



Task 2 – Define the Relationship between eCommerce Customers and Web Purchases

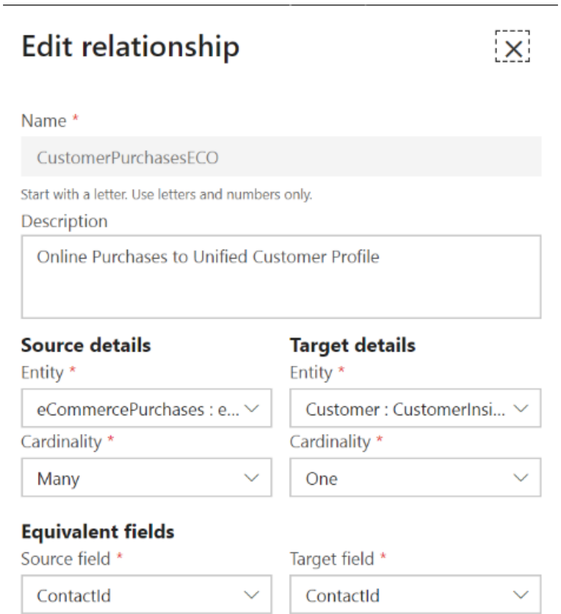
Define the relationship for CustomerPurchasesECO



1. Under **Data** within the left-hand menu, click **Relationships** in the left-navigation menu
2. Click **New Relationship**
3. Name the relationship **ePurchasestoECustomer**
4. In **Description** add **Online Purchases to Unified Customer Profile**
5. Set **Source** details entity to **eCommercePurchases: eCommerce** and **Cardinality** to **Many**
6. Set Target details entity to **eCommerceContacts : eCommerce** and Cardinality to **One**
7. Set equivalent fields to **ContactId** for both **Source field** and **Target field**
8. Click **Save**

Task 3 – Define the Relationship between Unified Profiles and Purchases

Define the relationship for CustomerPurchasesECO

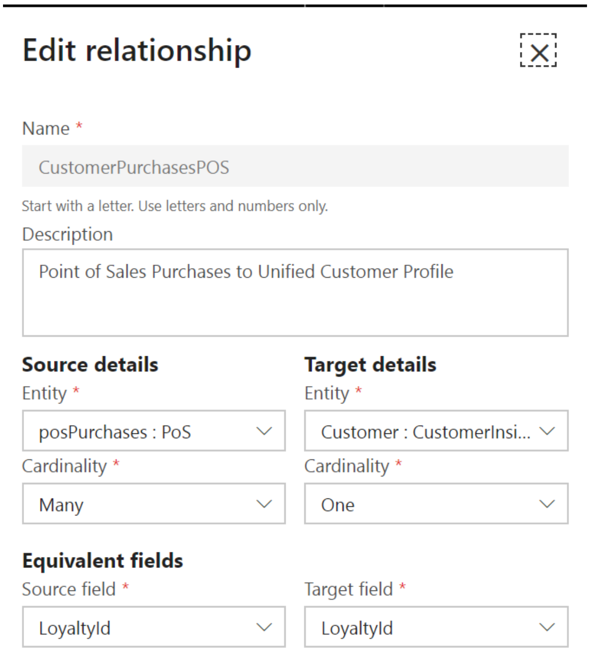


1. Under **Data** within the left-hand menu, click **Relationships** in the left-navigation menu
2. Click **New Relationship**
3. Name the relationship **CustomerPurchasesECO**
4. In **Description** add **Online Purchases to Unified Customer Profile**
5. Set **Source** details entity to **eCommercePurchases: eCommerce** and **Cardinality** to **Many**
6. Set Target details entity to **Customer : CustomerInsights** and Cardinality to **One**
7. Set equivalent fields to **ContactId** for both **Source field** and **Target field**
8. Click **Save**

Task 4 – Define the Relationship between Unified Profiles and Store Purchases

Define the relationship for CustomerPurchasesPOS

1. Under **Data** within the left hand menu, click **Relationships** in the left-navigation menu
2. Click **New Relationship**
3. Name the relationship **CustomerPurchasesPOS**
4. In **Description** add **Point of Sale Purchases to Loyalty Scheme Customers**
5. Set **Source** details entity to **posPurchases: POS** and **Cardinality** to **Many**
6. Set Target details entity to **Customer : CustomerInsights** and Cardinality to **One**
7. Set equivalent fields to **LoyaltyId** for both Source field and Target field
8. Click **Save**



Task 3 – Business Measures

Business Measures helps you track your business performance and health.
Examples: **Average Sales per Customer** and **Monthly Active Users (MAU).**

The business has asked you to calculate the **Average Store Purchase** and **Average Web Purchase** values for both the Contoso Coffee business.

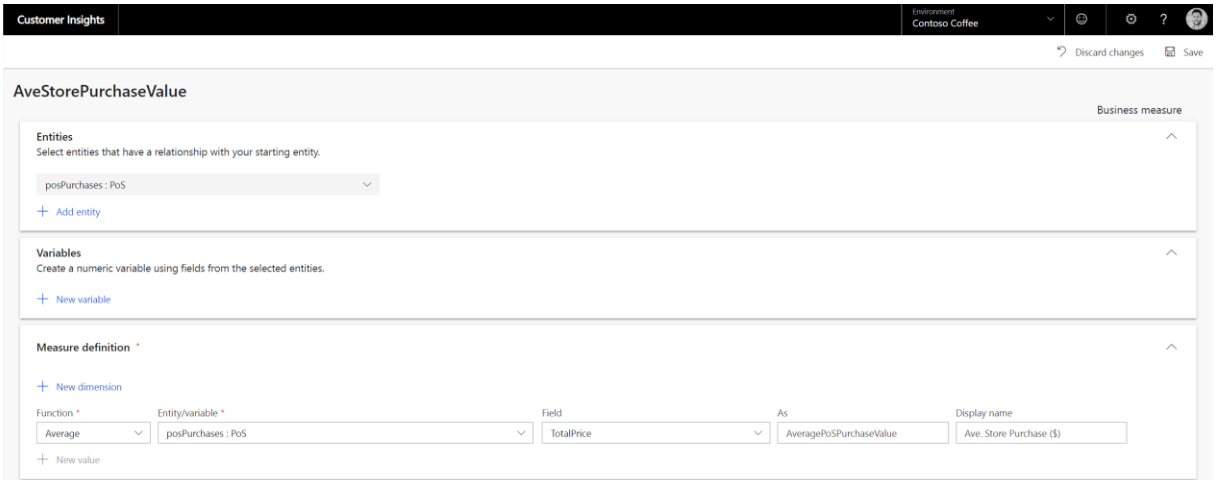
Average Store Purchase Value (Business Measure)

Average value of all in store purchases made at Contoso Coffee

1. Click **Measures** on the left hand menu
2. Click **New Measure** in the top right hand corner and select **Business Measure**
3. Enter the **Name** as **AveragePoSPurchaseValue**
4. Enter **Display Name** as **Ave. Store Purchase ($)**
5. Select **starting entity** as **posPurchases: PoS**
6. Under **Measure definition**, define your measure as follows:

Measure Item	Value
Function	Average
Entity/Variable	postPurchase: PoS
Field	TotalPrice
As	AveragePoSPurchaseValue
Display Name	Ave. Store Purchase ($)

7. Click **Save**



Average Web Purchase Value

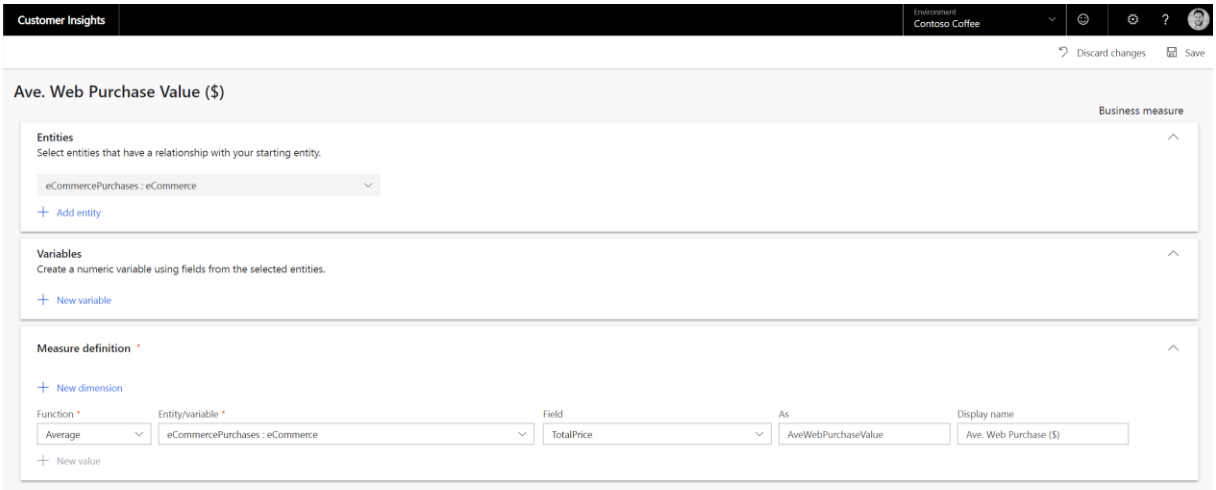
Average value of all web purchases made.

1. Click **Measures** on the left hand menu
2. Click **New Measure** in the top right hand corner and select **Business Measure**
3. Select **starting entity** as **eCommercePurchases : eCommerce**
4. Enter the **Name** as **AveWebPurchaseValue**
5. Enter **Display Name** as **Ave. Web Purchase Value ($)**
6. Under **Measure definition**, define your measure as follows

Measure Item	Value

Function	Average
Entity/Variable	eCommercePurchases : eCommerce
Field	TotalPrice
As	AveWebPurchaseValue
Display Name	Ave. Web Purchase ($)

7. Click **Save**



Task 4 – Customer Attribute

Customer Measures are a single field per customer that reflects a score, value, or state for each customer. Examples are ***Lifetime Value*** and ***Total Sales.***

In this task you will create measures to calculate the **Lifetime Spend ($), Total Club Points, Average Web Purchase Value ($)** and **Average Store Purchase Value ($)** of each customer. By calculating value for the business and customers, Contoso Coffee can identify customers with a higher than average spend on each channel.

Lifetime Spend ($)

Average value of all web purchases made.

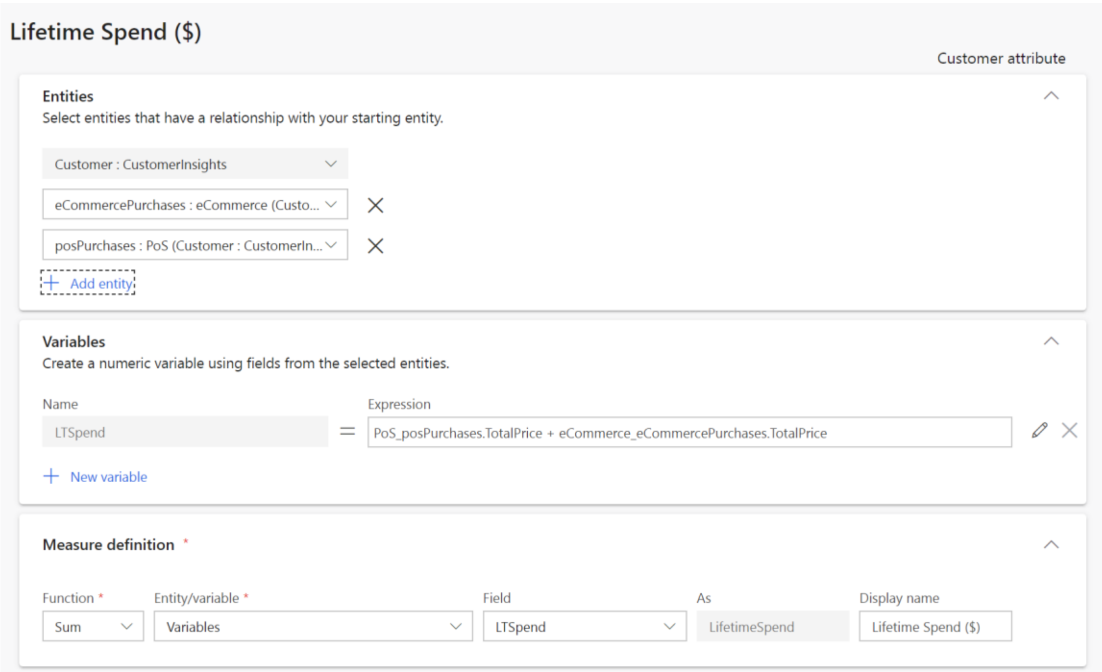
1. Click **Measures** on the left hand menu
2. Click **New Measure** in the top right hand corner and select **Customer Attribute**
3. Set the **Name** as **LifetimeSpend**
4. Set **Display Name** as **Lifetime Spend ($)** and click **Next**
5. Click + **Add Entity** and select **eCommercePurchases : eCommerce**
6. Click + **Add Entity** and select **posPurchases : PoS**
7. Under **Variables** create a new variable named **LTSpend** and set the **Expression** to **POS_posPurchases.TotalPrice + eCommerce_eCommercePurchases.TotalPrice**

   Note: You must use the editor to create the measure. Copy + Paste of the above function will not work

8. Under **Measure definition**, define your measure as follows

Measure Item	Value
Function	Sum
Entity/Variable	Variables
Field	LTSpend
As	LifetimeSpend
Display Name	Lifetime Spend ($)

9. Click **Save**



Total Club Points

Average value of all web purchases made.

1. Click **Measures** on the left hand menu
2. Click **New Measure** in the top right hand corner and select **Customer Attribute**
3. Set the **Name** as **ClubPoints**
4. Set **Display Name** as **Total Club Points** and click **Next**
5. Click + **Add Entity** and select **posPurchases : PoS**
6. Under **Measure definition**, define your measure as follows

Measure Item	Value
Function	Sum
Entity/Variable	posPurchases : PoS
Field	RewardPointsAdded
As	ClubPoints
Display Name	Total Club Points

7. Click **Save**

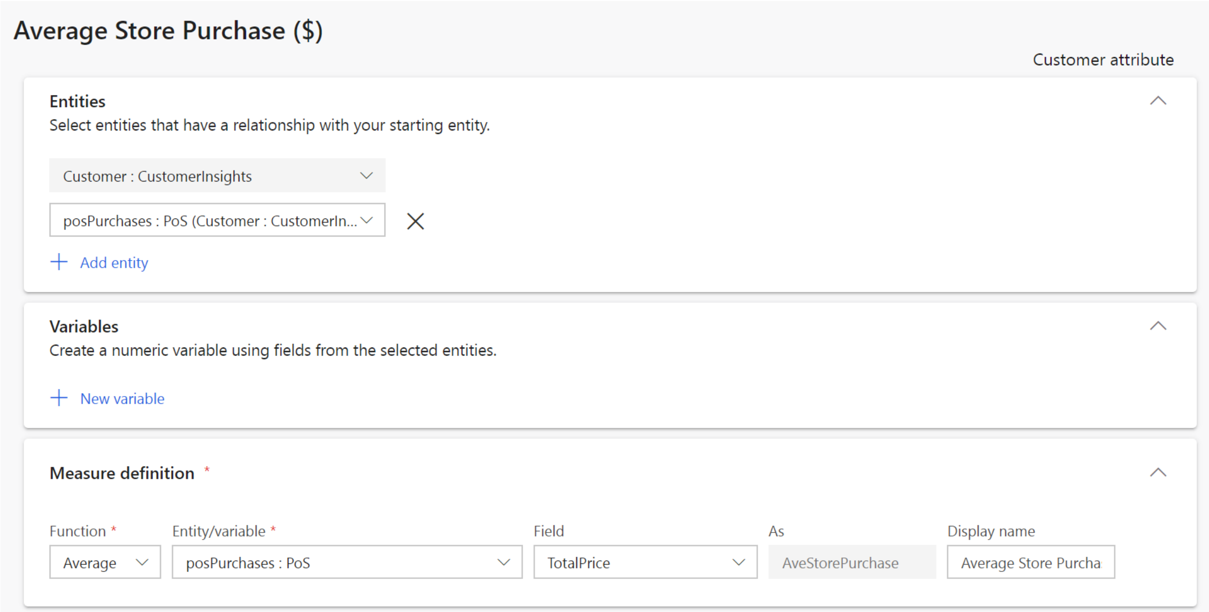
Average Store Purchase Value ($)

Average value of all store purchases made for each customer

1. Click **Measures** on the left hand menu
2. Click **New Measure** in the top right hand corner and select **Customer Attribute**
3. Set the **Name** as **AveStorePurchase**
4. Set **Display Name** as **Ave. Store Purchase Value ($)** and click **Next**
5. Click + **Add Entity** and select **posPurchases : PoS**
6. Under **Measure definition**, define your measure as follows

Measure Item	Value
Function	Average
Entity/Variable	posPurchases : PoS
Field	TotalPrice
As	AveStorePurchase
Display Name	Ave. Store Purchase ($)

7. Click **Save**



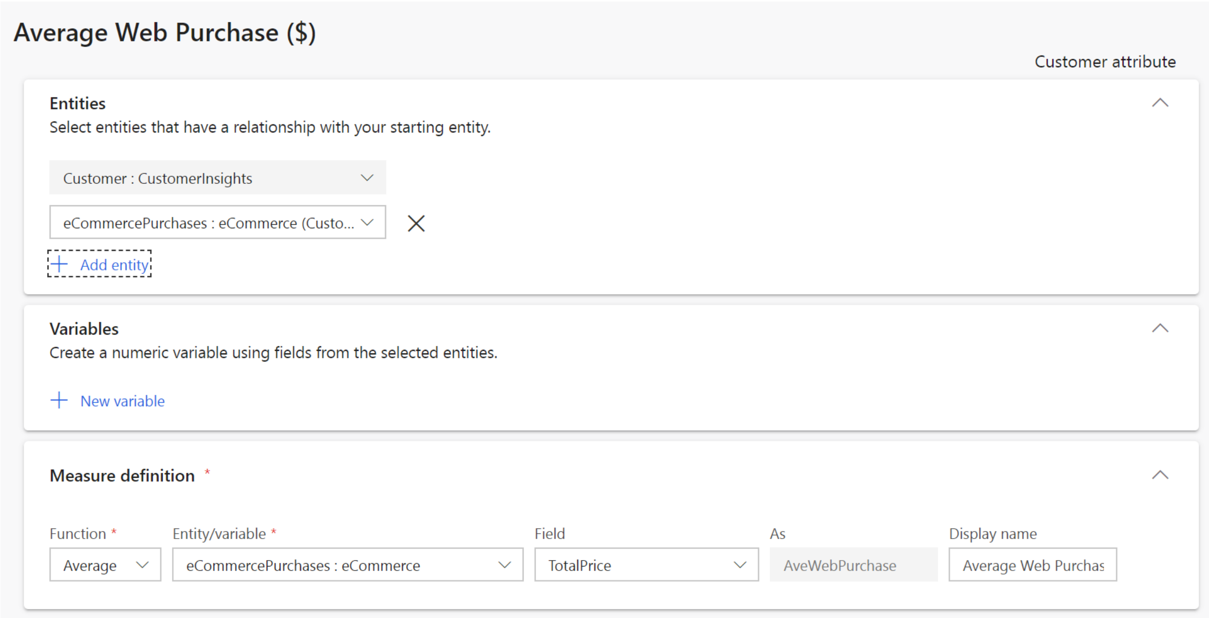
Average Web Purchase Value ($)

Average value of all web purchases made.

1. Click **Measures** on the left hand menu
2. Click **New Measure** in the top right hand corner and select **Customer Attribute**
3. Set the **Name** as **AveWebPurchase**
4. Set **Display Name** as **Ave. Web Purchase Value ($)** and click **Next**
5. Click + **Add Entity** and select **eCommercePurchases: eCommerce**
6. Under **Measure definition**, define your measure as follows

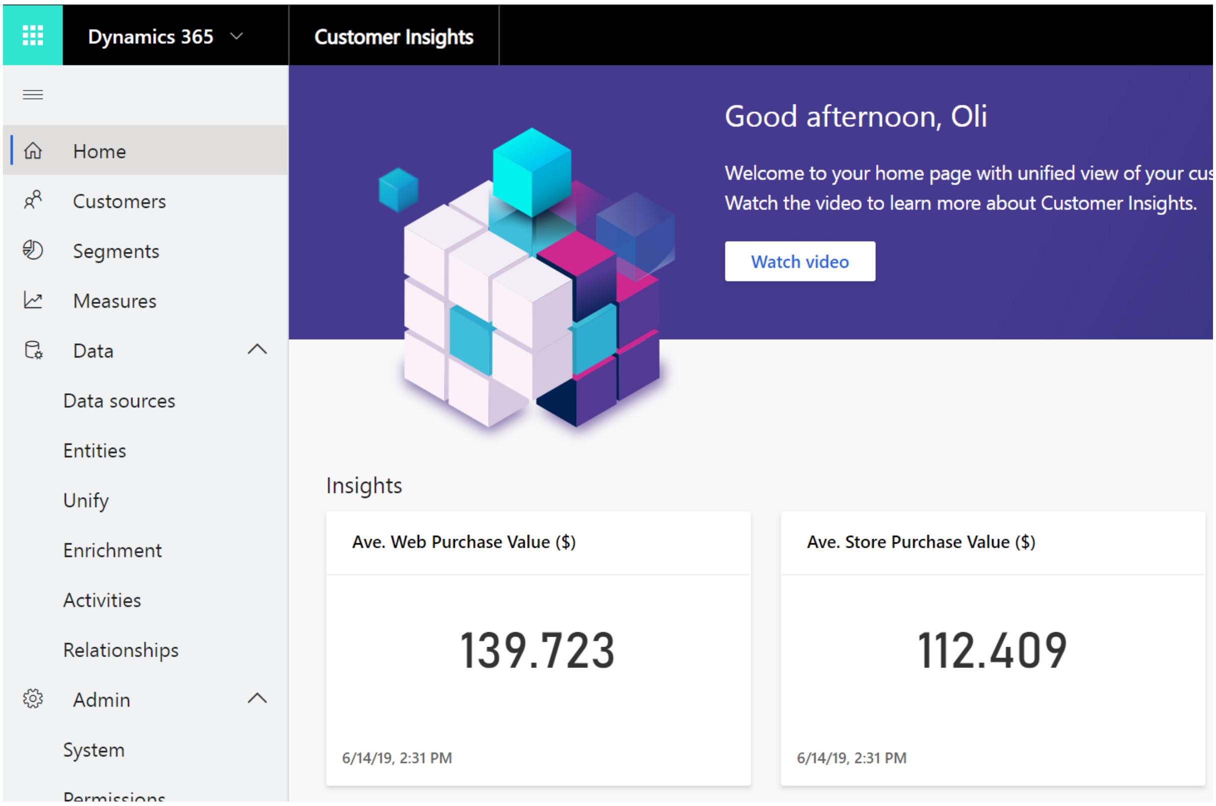
Measure Item	Value
Function	Average
Entity/Variable	eCommercePurchases : eCommerce
Field	TotalPrice
As	AveWebPurchase
Display Name	Ave. Web Purchase ($)

7. Click **Save**



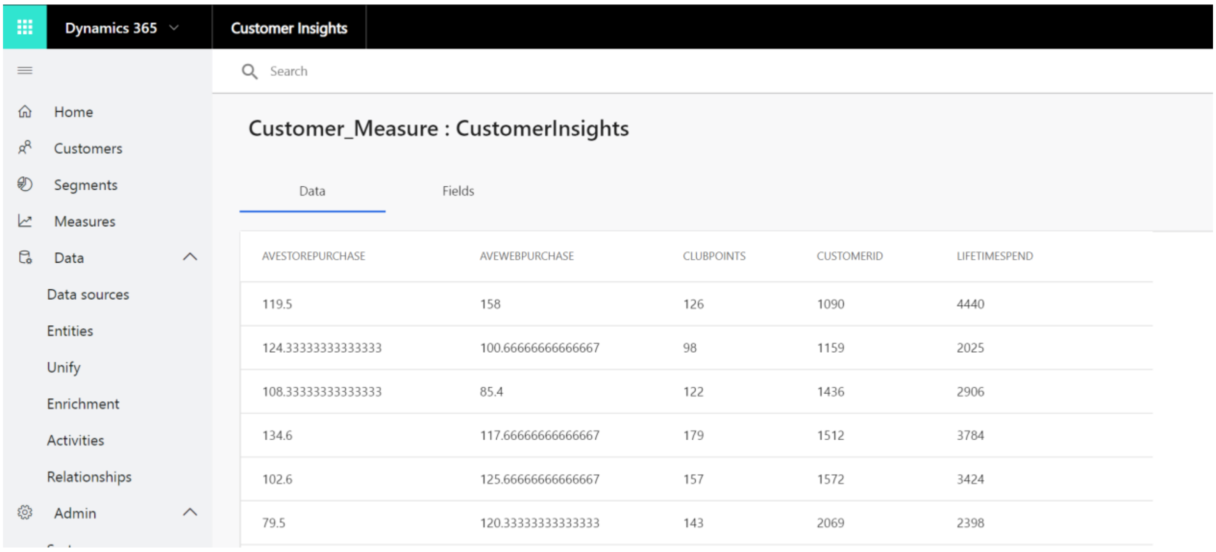
Task 6 – Review Measures

1. Navigate to the Customer Insights Home Page.
   You should notice that your Business Measures are visible on the home page



2. Navigate to the **Entities** menu area and open the **Customer_Measure** entity. You should be presented with a preview of the Customer Measures you have calculated, against the Unified Profile Customer ID.

You are now able to consume these measures to drive action such as Marketing Segments.



Lab 6 – Segmentation

Segments enable you to group your customers into cohorts based on demographic, transactional, or behavioural customer attributes. Using segmentation, you can achieve more targeted actions such as promotional campaigns, sales activities, or customer support actions to achieve desired business goals. You can define complex filters around the Customer Profile entity and its graph of related entities. Each segment, after processing, outputs a set of customer entity records that you can export and take actions upon.

Segments can be static (defined at the point you activate them) or Dynamic. If you create a Dynamic segment, customers will drop in and out of the segment as they meet or no longer meet the criteria you define.

Using Customer Insights, Segments can be exported to **Dynamics 365 Marketing** and used to execute a targeted Customer Journey. Segments can also be exported to .csv or accessed via API.

In this lab you will segment your unified customer profiles, to uncover cohorts of customers with similar attributes.

Task 1 – Segment: Higher than Average Online Purchase Value

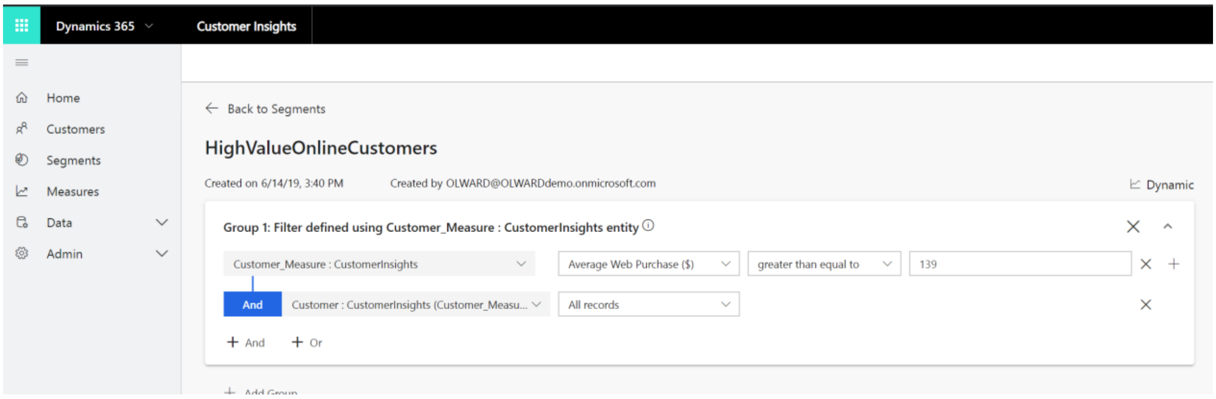
Contoso Coffee Marketing want to run a new promotion to convert customers to subscription model. Marketing have identified that they wish to target brew-at-home customers with a higher than average online purchase value to do so.

1. Click on **Segments** in the left menu and Click on **+ New Segment**

2. Set Segment name to **HighAveValueWeb**
   Set Segment Display Name to **High Value Web Purchase_Subscription Target**
   Set segment type to **Dynamic**
   Set Description to '**Brew-at-home customers with an above average web purchase value'**
   Click **Next**

3. Set Group 1: Define filter: to Customer_Measure : Customer Insights, Average Web Purchase ($) greater than equal to139

4. Click **And. Customer : CustomerInsights (Customer_Measure) All Records**



5. Click **Save** and **Activate**

Task 2 – Segment: Summer Promo

Contoso Coffee Marketing want to run a new Summer Promotion targeting millennials with a higher than average in-store purchase with their newly launched Cold Brew Coffee.

1. Click on **Segments** in the left menu and Click on **+ New Segment**

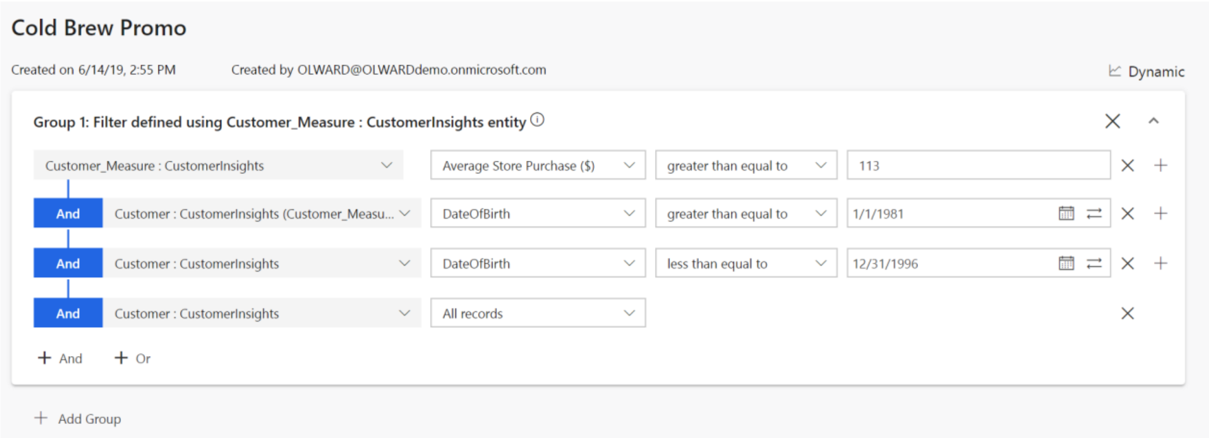
2. Set Segment name to 'SummerPromotion'
   Set Display Name to 'Summer Promo'
   Set segment type to **Dynamic**
   Click **Next**

3. Select **Customer_Measure : Customer Insights** from the **Select an Entity** drop down.

4. Set Group 1: Define filter: to
   Customer_Measure : Customer Insights, Average Store Purchase ($), greater than or equal to '113'

   (Note: 113 is the average In store purchase we calculated earlier)

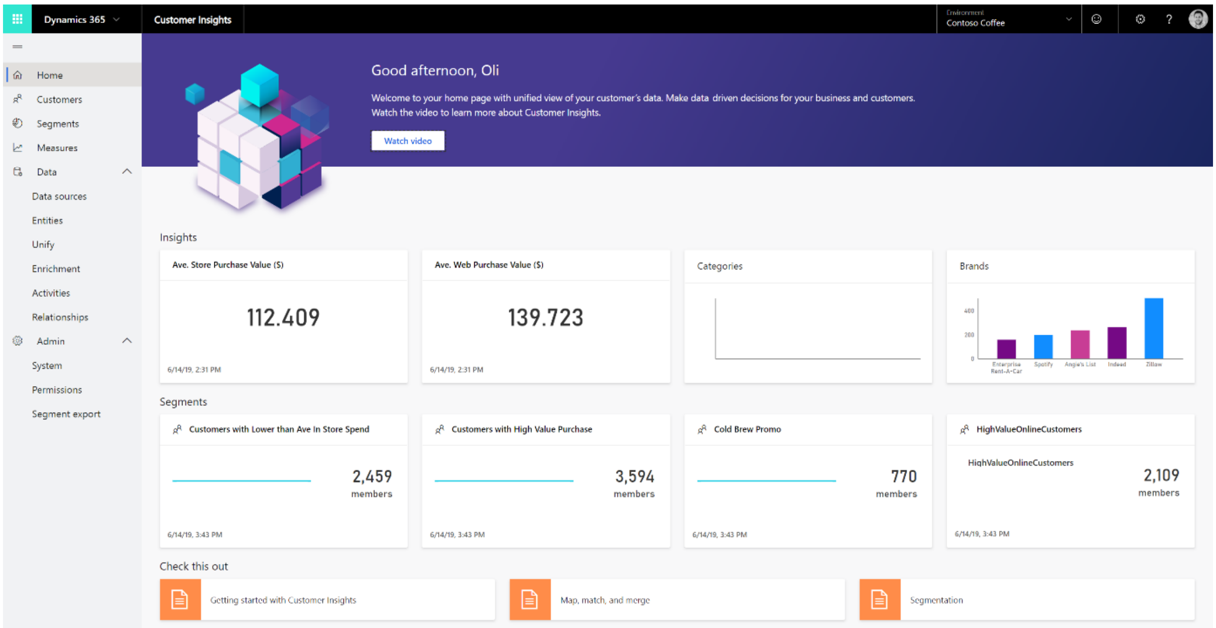
5. Click **AND** then add **DateOfBirth greater than or equal to 1/1/1981**
6. Click **AND** then add **DateOfBirth less than or equal to 12/31/1996**
7. Click **And. Customer : CustomerInsights (Customer_Measure) All Records**



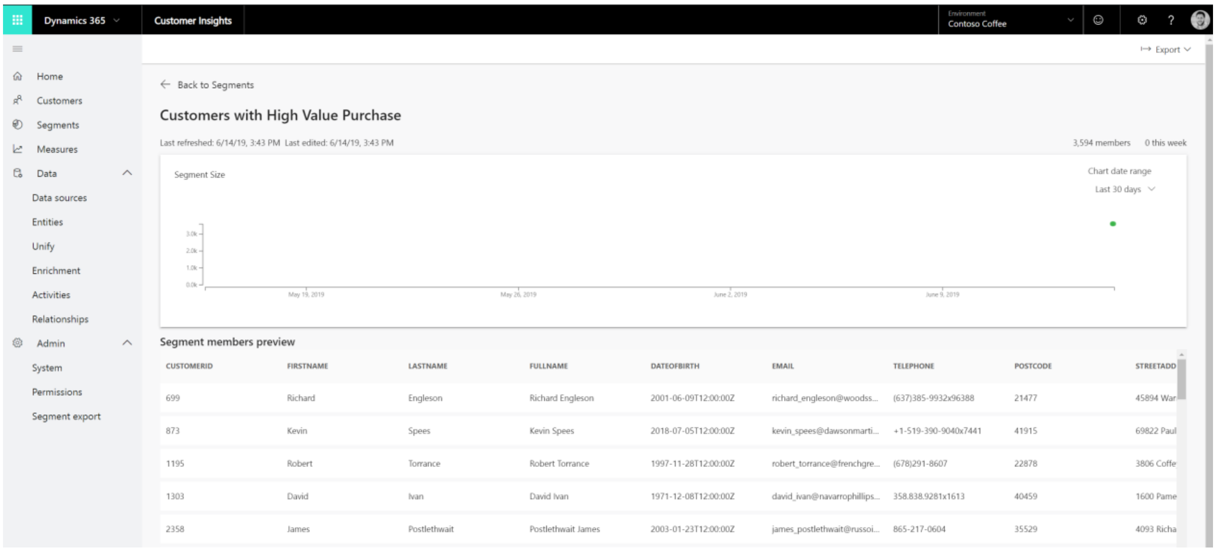
8. Click **Save**, then **Save & Activate**

Task 3 – Review Segments

1. Navigate to the Customer Insights Home Page. You should see your segments displayed.



2. Click on one of your segments. You should see that you're presented with a preview of the customers included within your segment, as well a timeline highlighting the segment size. This will display increase and decrease in the number of segment members as data changes over time.



3. Note that by clicking **Export** in the top right-hand corner, you can export the segment directly to **Dynamics 365 for Sales and Marketing** or (to a CSV), allowing you to use the segments to execute a Marketing Campaign.

Task 4 – Export Segments

Now that you have created one or more segments using the **Segment builder** screen, you are ready to start activating your Segments.

Segments created within Customer Insights can be made available or exported to Dynamics 365 Marketing, Azure Storage or CSV file, with future connectors available.

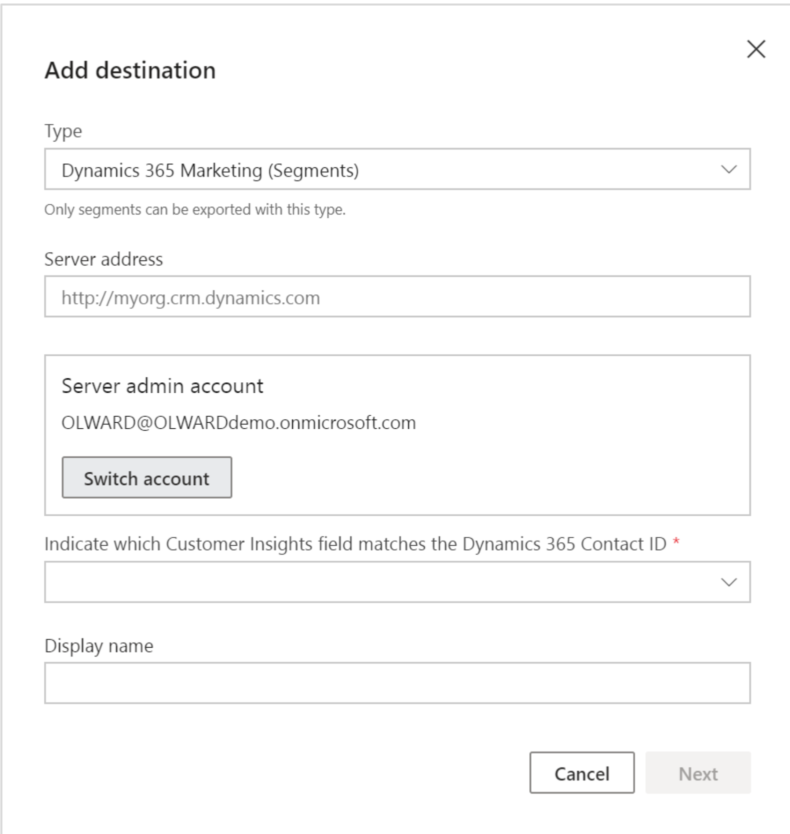
Note: this section is for illustration only. You may be able to complete the following section if you have an available Dynamics 365 for Marketing Trial.

Segments can also be accessed through PowerPlatform connectors (PowerBI, PowerApps, Flow) or to third party systems via API.

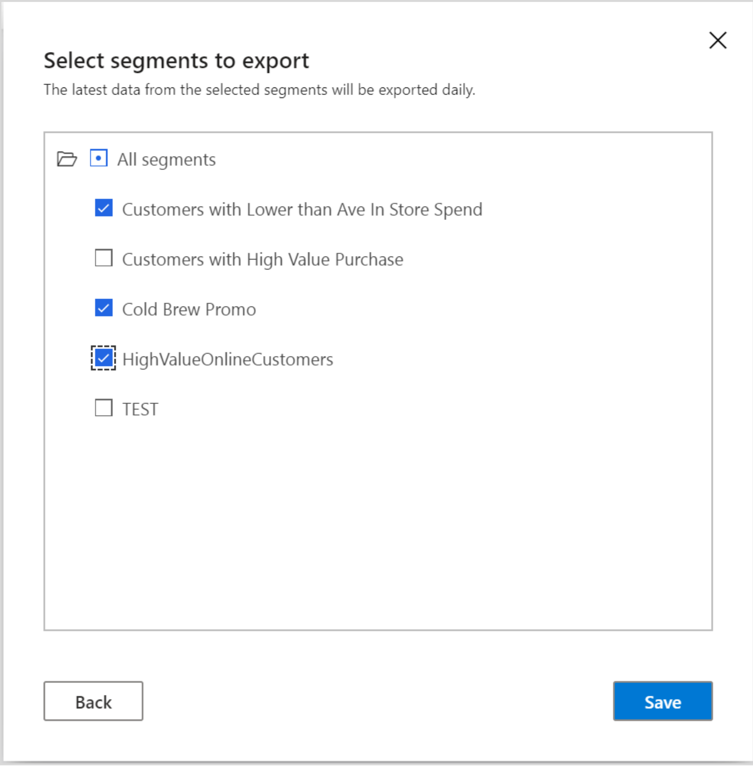
To add an **Export Destination** click **Admin → Export destinations.**

Click +**Add destination.**

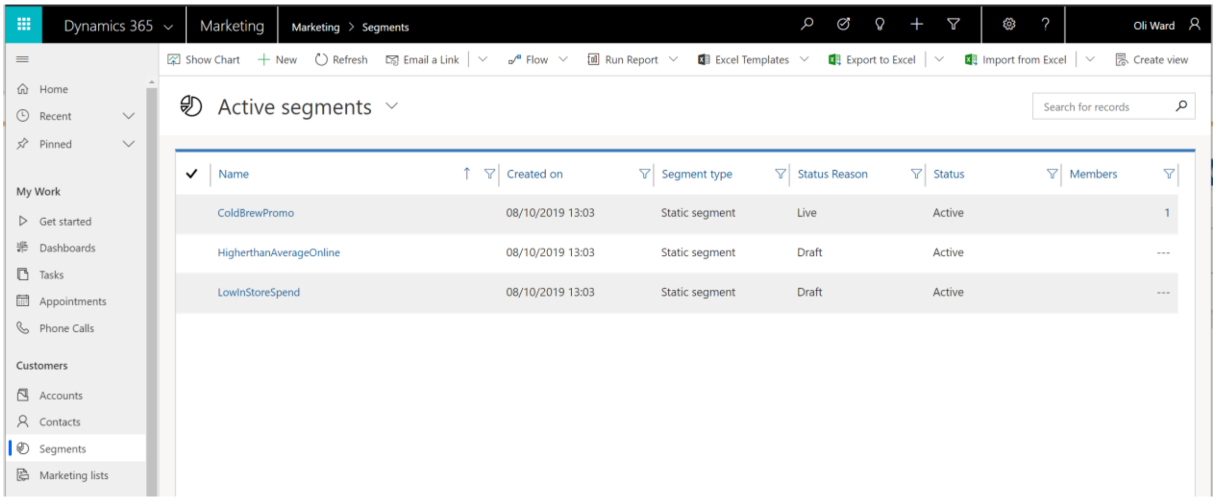
In the **Type** drop down, you are able to select **Azure Blob Storage, Dynamics 365 Sales (Marketing Lists)** or **Dynamics 365 Marketing.**



Selecting and authenticating to a Dynamics 365 for Marketing instnace, you will then be provided with a list of your available Customer Insights Segments, that you are able to select to sync with Dynamics 365 Marketing.



Signing into your Dynamics 365 for Marketing instance, you shoud be able to identify that your Customer Insights segments are visible and available within **Segments.**



Setting a Segment to **Go Live,** will make it available for use in Customer Journey designer and execution.