Microsoft Dynamics 365

Dynamics 365 Customer Insights

Customer Insights in a Day

Agenda

Time	Session
13:00	Registration and coffee
13:15	Introductions and Customer Insights overview
14:00	Customer Insights hands-on labs
15:15	Break
15:30	Customer Insights use cases & architecture
15:45	Customer Insights hands-on labs continued
16:45	Q&A and next steps

Microsoft Dynamics 365

Introductions & Objectives

Your BusinessBase Team

Timo Bax
Chief Technical Officer at BusinessBase

Michael Uenk
Chief Commercial Officer - Dynamics 365 Customer Engage...

A quick introduction of yourself

- ❑ *Your name*
- ❑ *Your company*
- ❑ *Your role*
- ❑ *Your experiences with Dynamics 365*
- ❑ *Do you already know CI?*
- ❑ *Goals for today?*

Reactive

Production line down

Service center operator logs issue

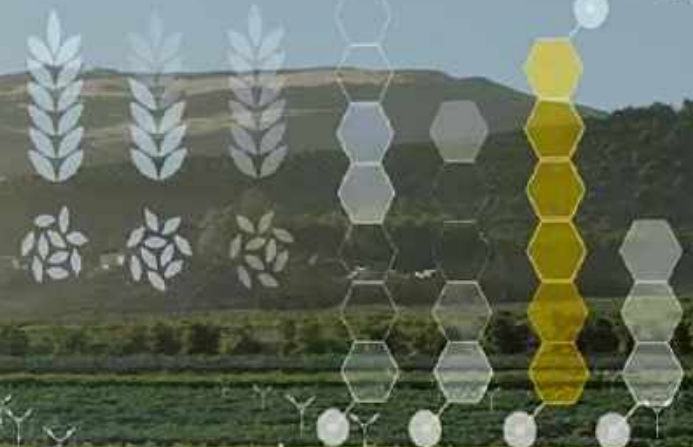Emergency service visit

Customer disruption resolved

Heart rate at steady rhythm. No immediate concerns. Patient health at premium level for surgical procedure.

Monitoring system secure and downloaded to main server. Video playback enabled. To be shared with residence in the left wing only.

BP stable

Step 3 of 7: 4 hours remaining
Primary incision made

EXIT

TAKE AN
ADDITIONAL
20%
OFF
YOUR PURCHASE

$39

$89

Customer data
recorded and applied

Smart de
applies all sales avail
to items colle

$199

TAKE AN
ADDITIONAL
20%
OFF
YOUR PURCHASE

Reactive

Production line down

Service center operator logs issue

Emergency service visit

Customer disruption resolved

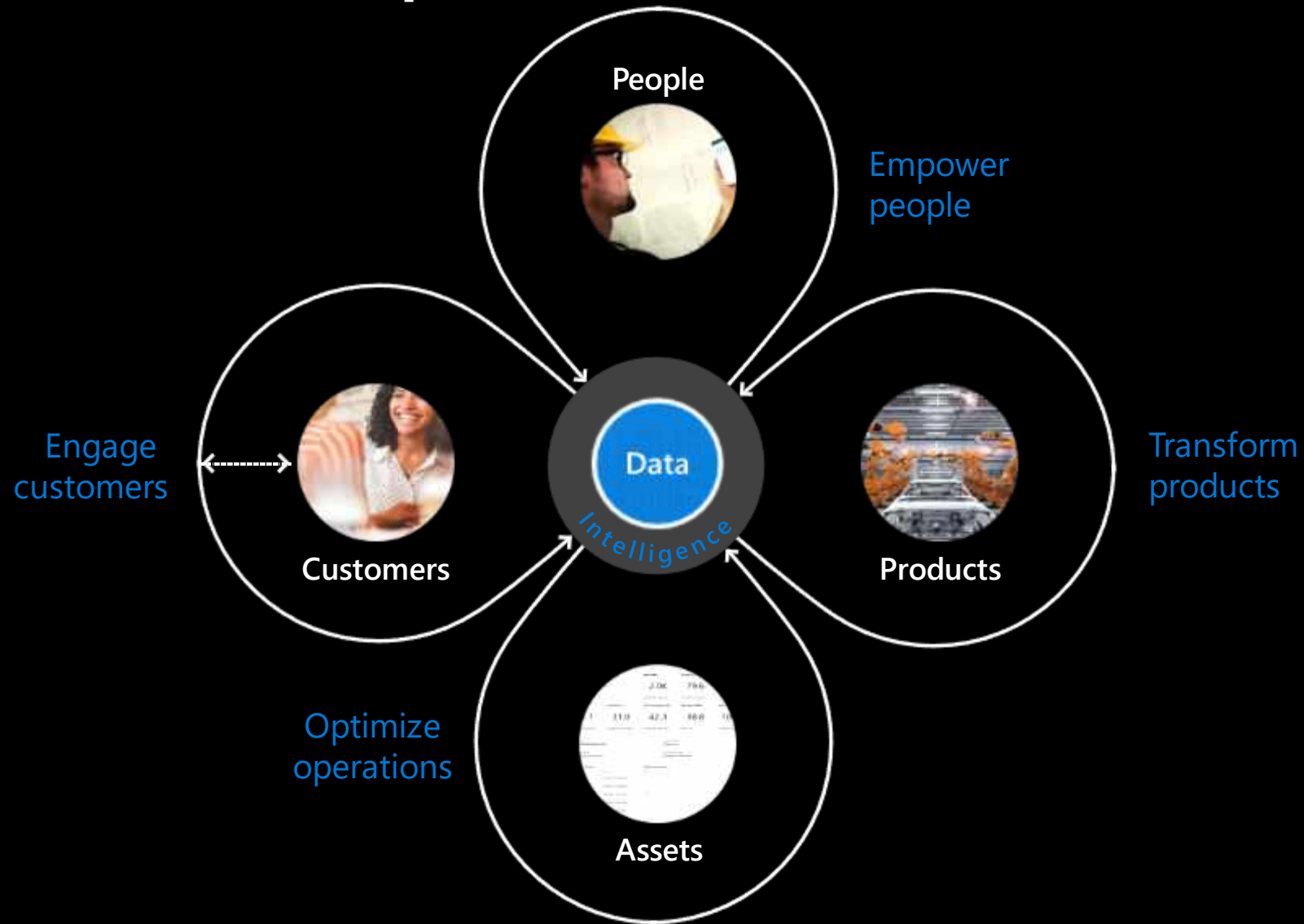# Proactive

Data

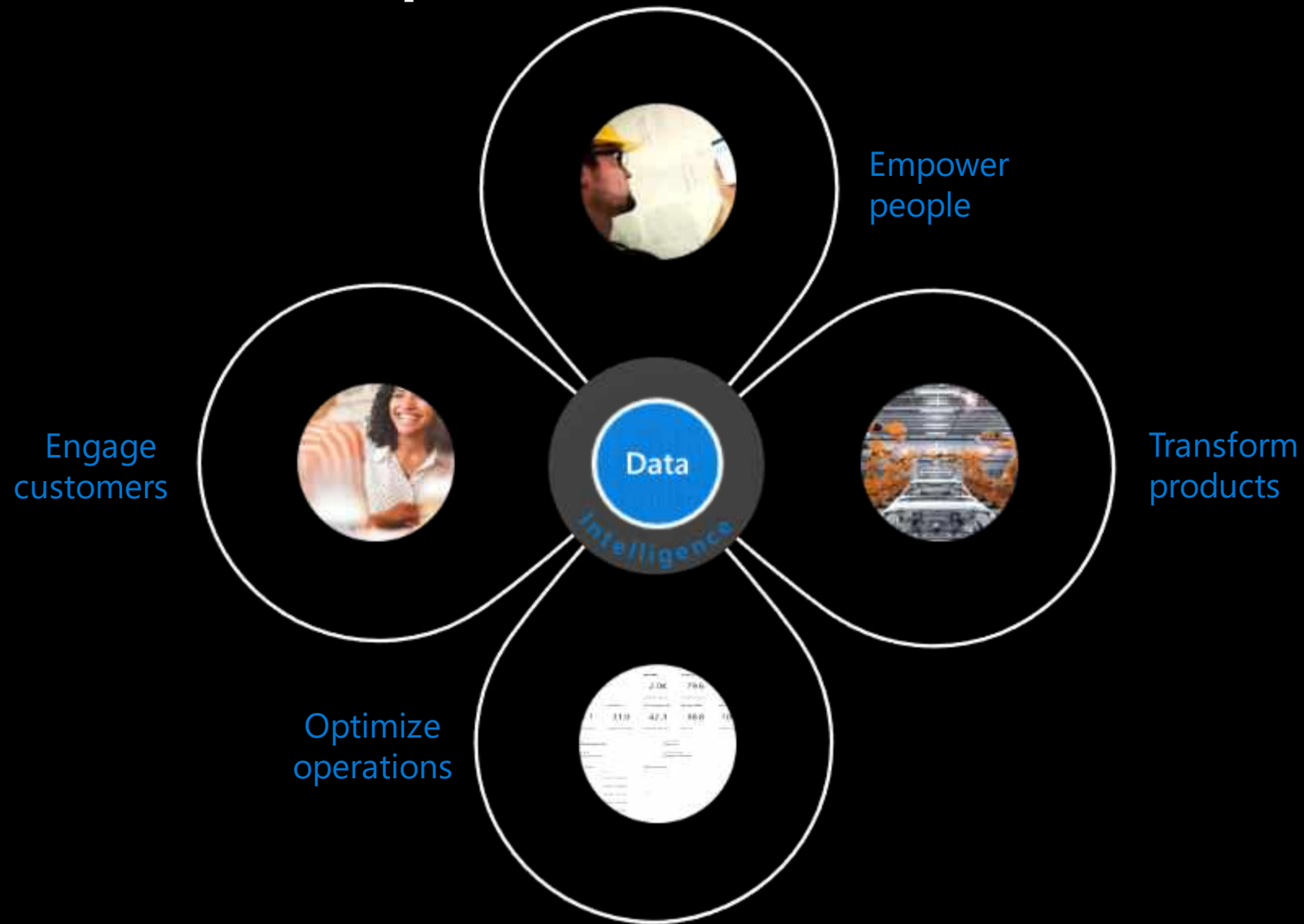Anomaly detection model

Proactive maintenance visit

Customer never disrupted

Digital feedback loop

People
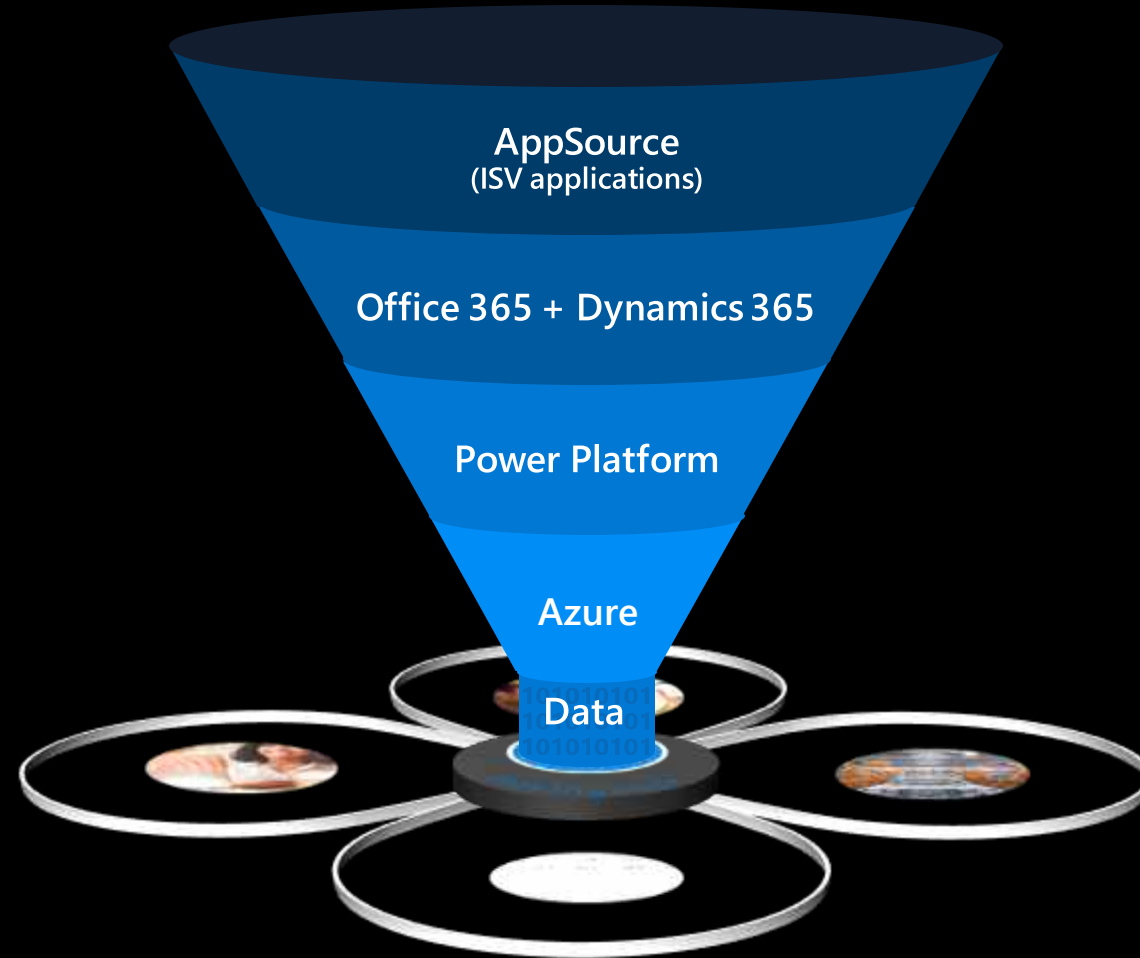
Empower people

Engage customers

Customers

Data

Intelligence

Transform products

Products

Optimize operations

Assets

Digital feedback loop

Empower people

Transform products

Data

Intelligence

Engage customers

Optimize operations

Digital feedback loop

Microsoft Power Platform

Power BI

Power Apps

Power Automate
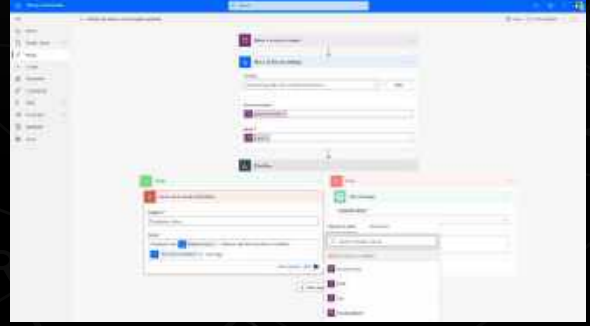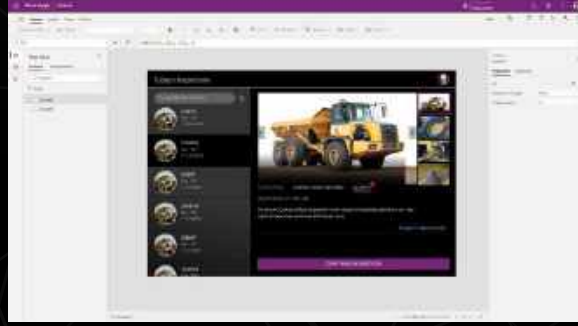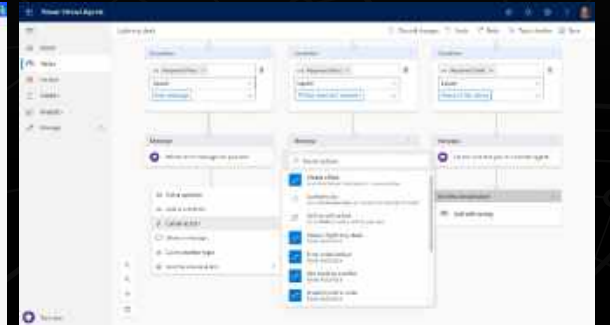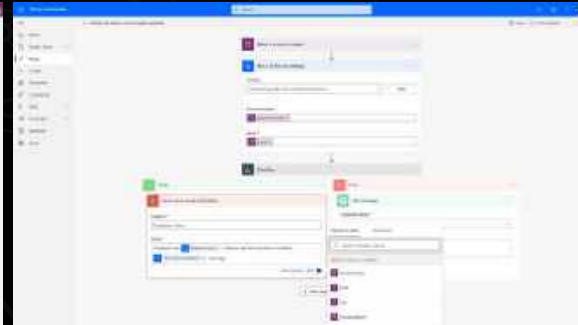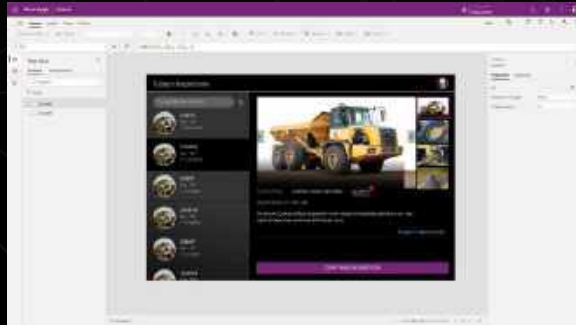
Common Data Service

Connectors to hundreds of data sources

Get more value from your data

Microsoft mission

Empower every person and
every organization on the
planet to achieve more

Microsoft
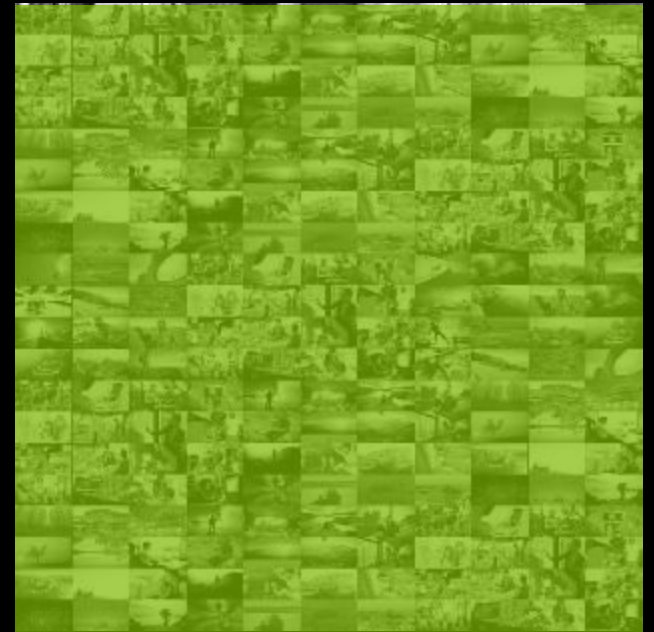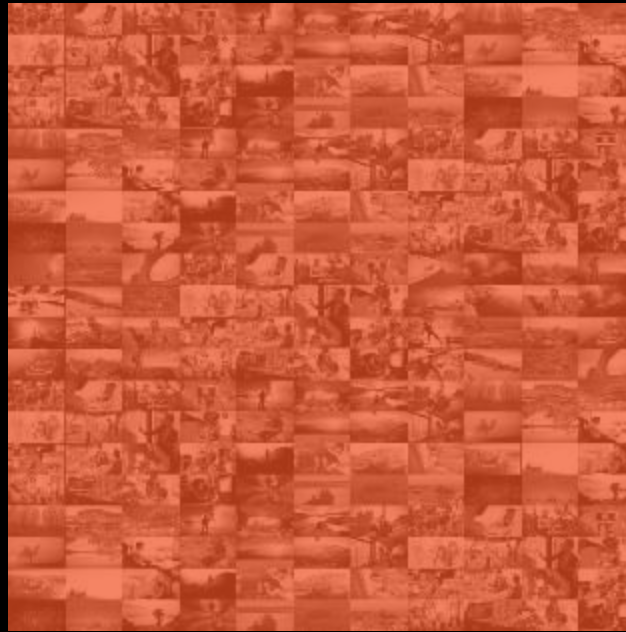
1975

2014

2000

From knowing it all..........to learning it all

"*It's not just about technology*.

*Technologies will come and go, so you need to be able to both ask and answer the question: **What do you do as a company, why do you exist**?*

*Listen to your **Customers and** your **Employees**, they are the most important thing and define your business.*"

*Satya Nadella
CEO, Microsoft*

Unified Customer

Today more than ever, **Customers** are in the driver's seat

Microsoft's perspective for enabling intelligent retail

Know your customers

Create personal experiences, unlock new opportunities with data & predictive AI

Ahold Delhaize

Empower your employees

Enable secure digital collaboration across your business and reduce costs

IKEA

Deliver intelligent operations

Gain visibility across your end-to-end supply chain using technology solutions

STARBUCKS COFFEE

Reimagine retail
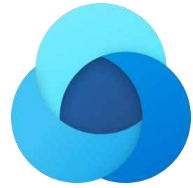
Create innovative Customer experiences and optimize in-store operations
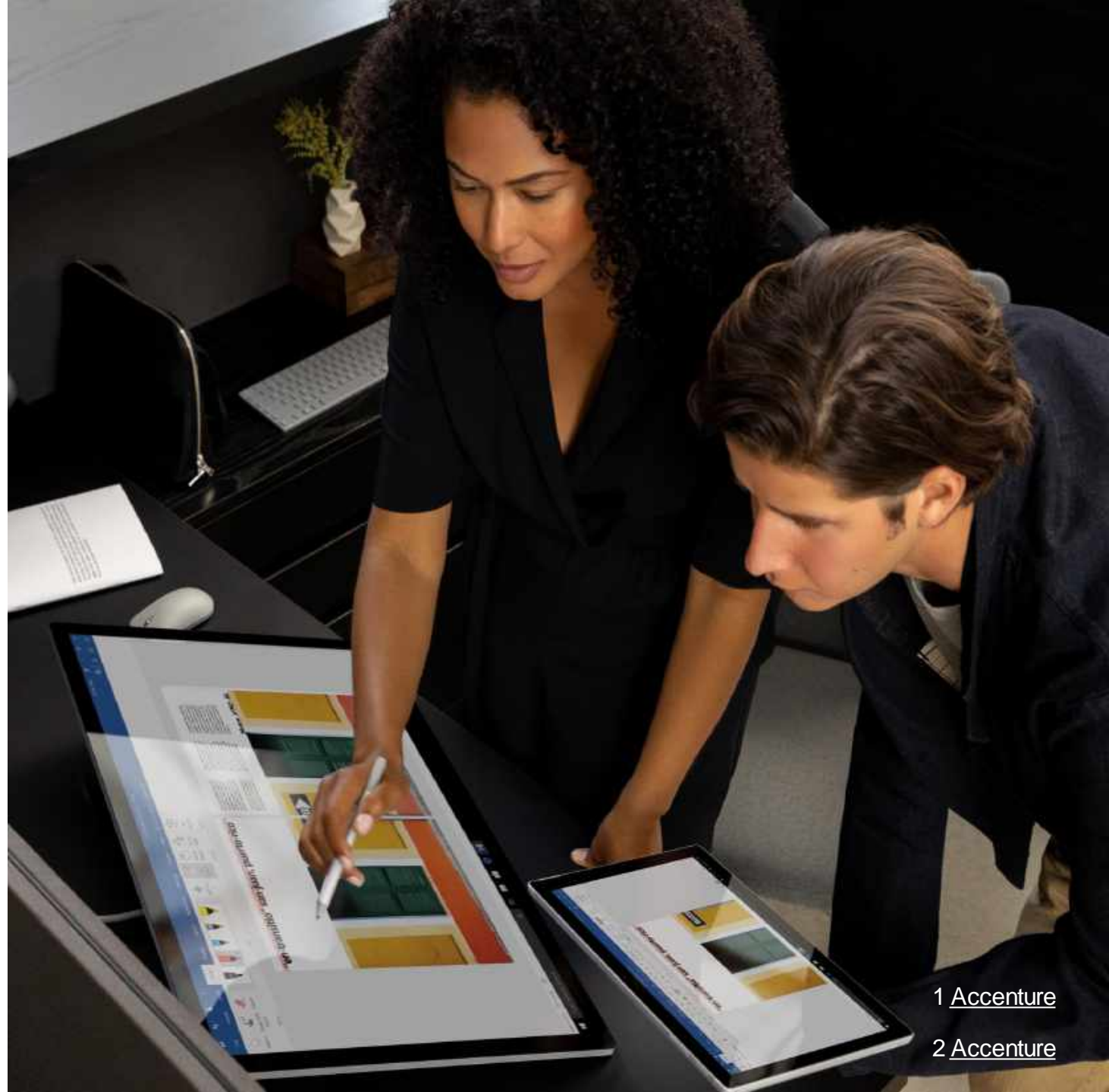
MARKS & SPENCER

Customer expectations are growing

91% of consumers are more likely to shop with brands who recognize, remember, and provide relevant offers and recommendations. [1]

81% of buyers want brands to get to know them and understand when to approach them and when not to. [2]

1 Accenture

2 Accenture

Today's experiences are falling short
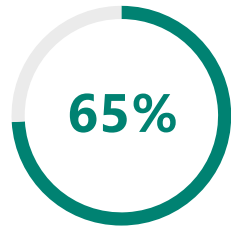
65% of customers are frustrated by inconsistent experiences across channels. [1]
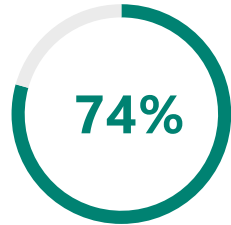
74% of customers are frustrated by the irrelevant content they are exposed to on websites. Up to 40% of them will leave. [2]
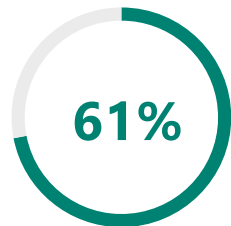
61% of customers stopped doing business with at least one company last year because of poor customer experience. [3]

1 McKinsey
2 Accenture
3 Accenture

Digital Transformation is rapidly changing the business landscape...

Sell products and services separately → Sell products, services and outcomes

One and done, transactional → Personalized, Customer lifetime value

Primarily human interactions & reactions → Proactive, observational / IoT to detect, and drive action

Data entered into a CRM/ERP system → Customer, Product data comes first

Key challenges

Customer data and systems are fragmented

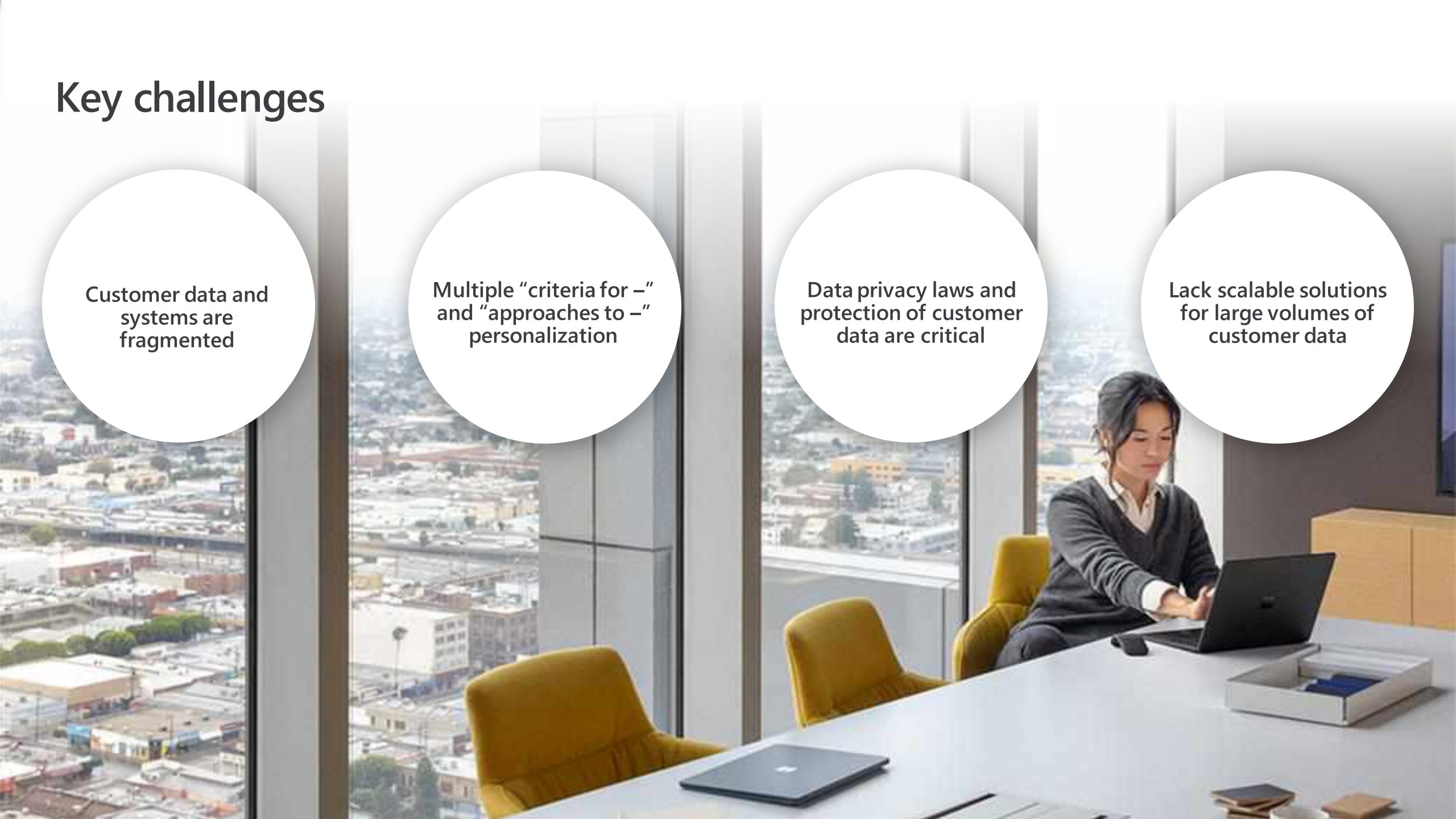**Multiple "criteria for –" and "approaches to –" personalization**

Data privacy laws and protection of customer data are critical

Lack scalable solutions for large volumes of customer data

The need for a Customer Data Platform (CDP)

- Organizations want to build meaningful customer relationships at every touchpoint

- Customer data is typically siloed in disparate systems, limiting organization's ability to make use of the data

- With CDPs, companies can "*efficiently collect, manage and use their customer data**"across the entire customer journey

- Delivering personalized experiences built on holistic customer profiles and intelligent insights

Lead generation

Campaigns

Website

Marketing

Sales

Content

Recommendations

Next best action

Omni-channel support

Cross-sell/upsell

Service

Dynamics 365 Customer Insights

Empower every organization to **unify and understand** its **customer data** to derive insights that **power** **personalized experiences** and processes

Why Customer Insights

Get a holistic view
of customers

Unlock insights
and take action

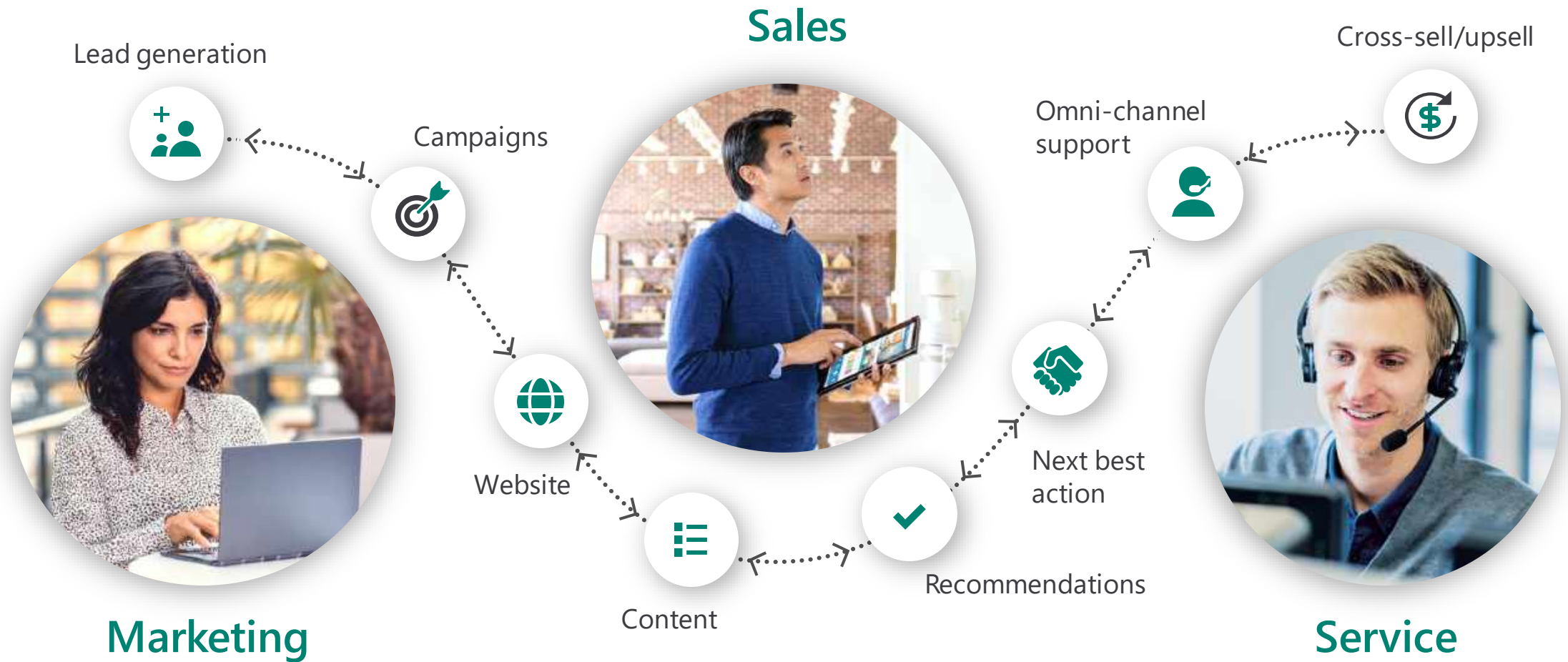Adapt and extend
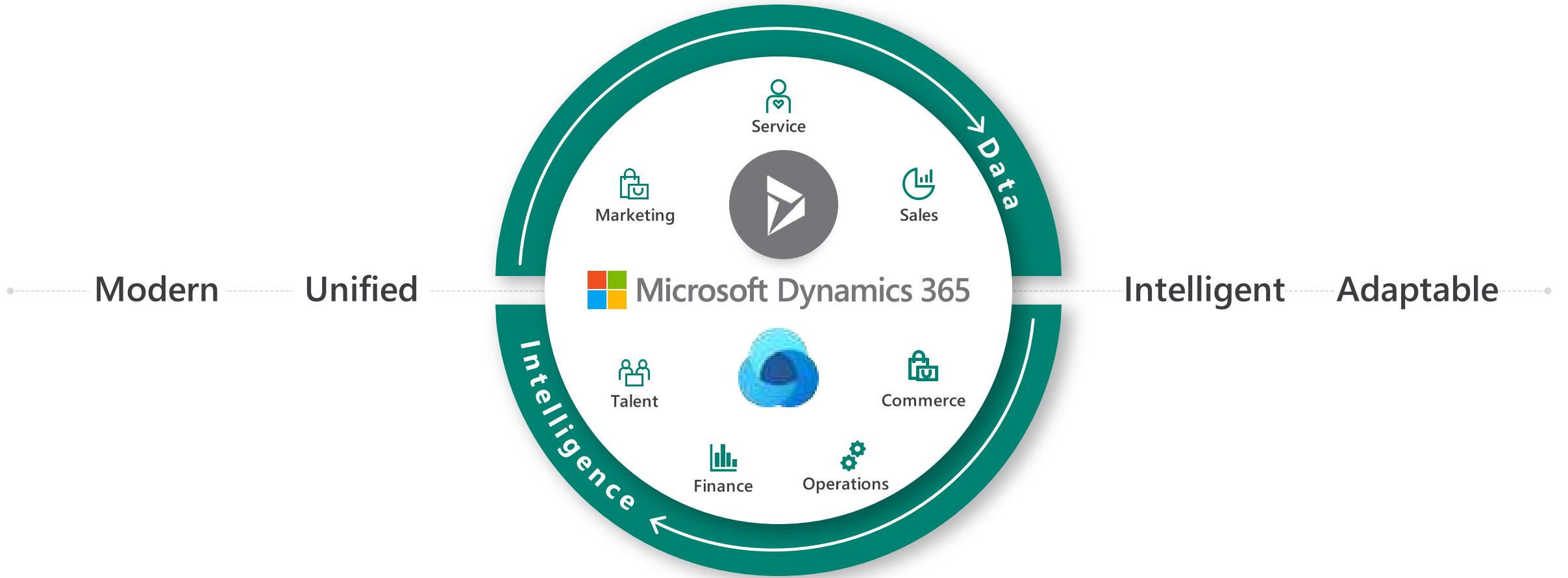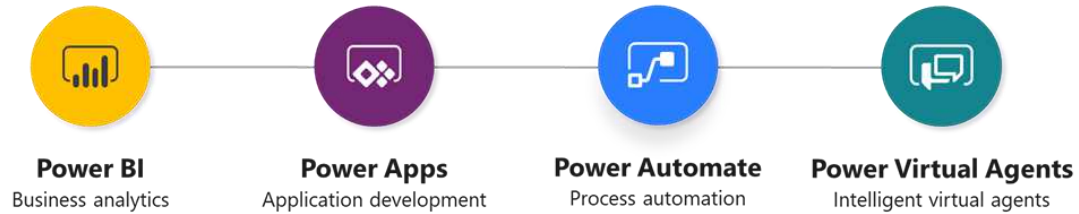
Rely on a productive
and trusted platform

Power end-to-end customer experiences

Lead generation

Campaigns

Sales

Cross-sell/upsell

Omni-channel support

Website

Content

Recommendations

Next best action

Marketing

Service

Dynamics 365 Customer Insights done differently

Traditional customer analytics

Custom build on analytics platform

Hard coded

Hard to adapt

Siloed apps

Time to implement measured in months

Requires deep technical expertise

Different stacks for storage, KPI calculations, ML, app experiences

Compliance as an afterthought

Dynamics 365 Customer Insights

Finished SaaS solution

Configurable

Extensible

Insights embeddable into operational CRM of choice

Time to implement measured in weeks

Ready to run by business users

Integrated in one finished solution based on hyper-scale cloud platform

Compliant by design

Microsoft Dynamics 365

Workshop Overview

Contoso Coffee

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

Introducing Contoso Coffee

Transactional Relationship

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

Data Silos

Unable to deliver personalised customer experiences

Business Objective

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

Microsoft Dynamics 365
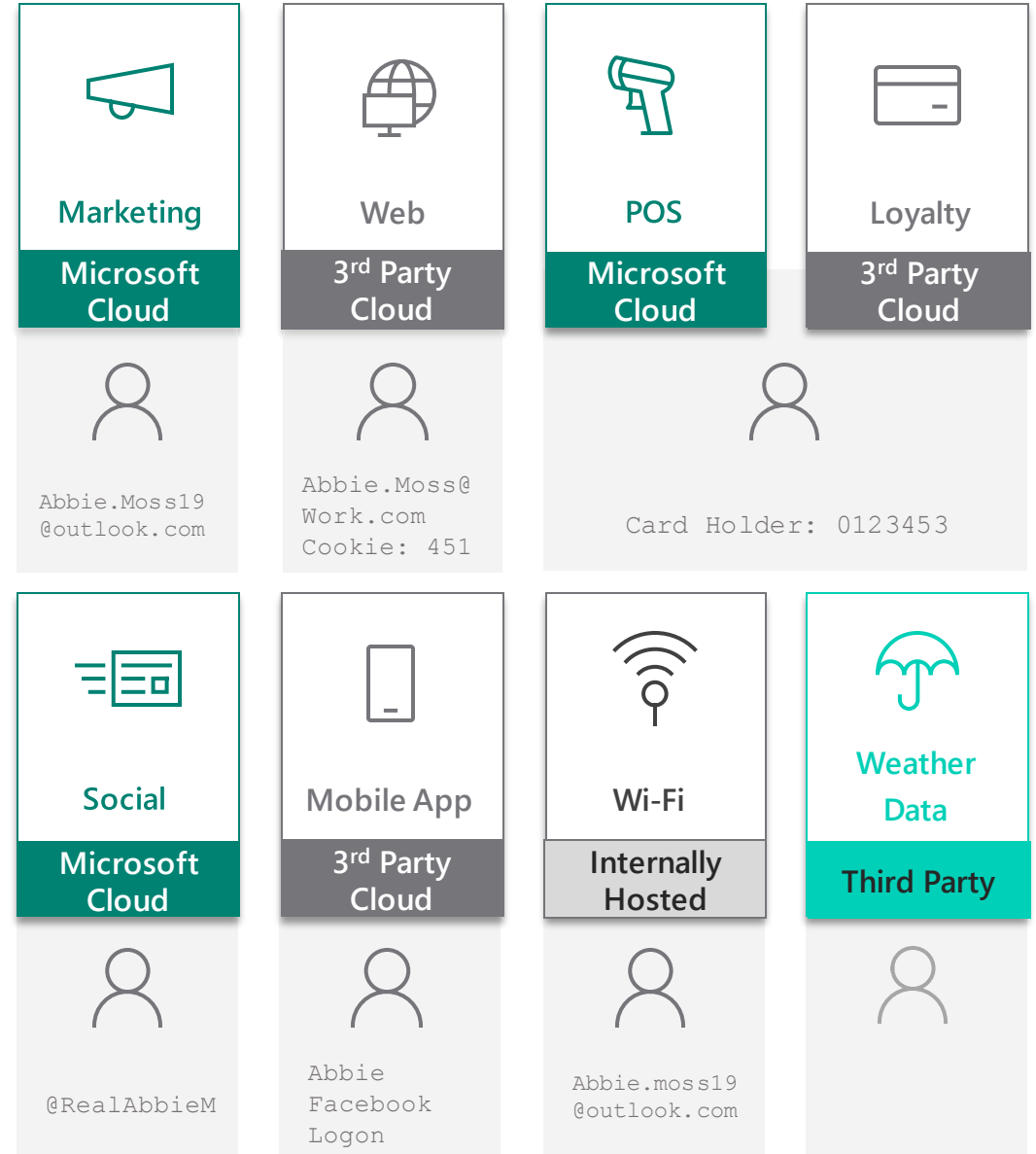
Existing Data Landscape

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.
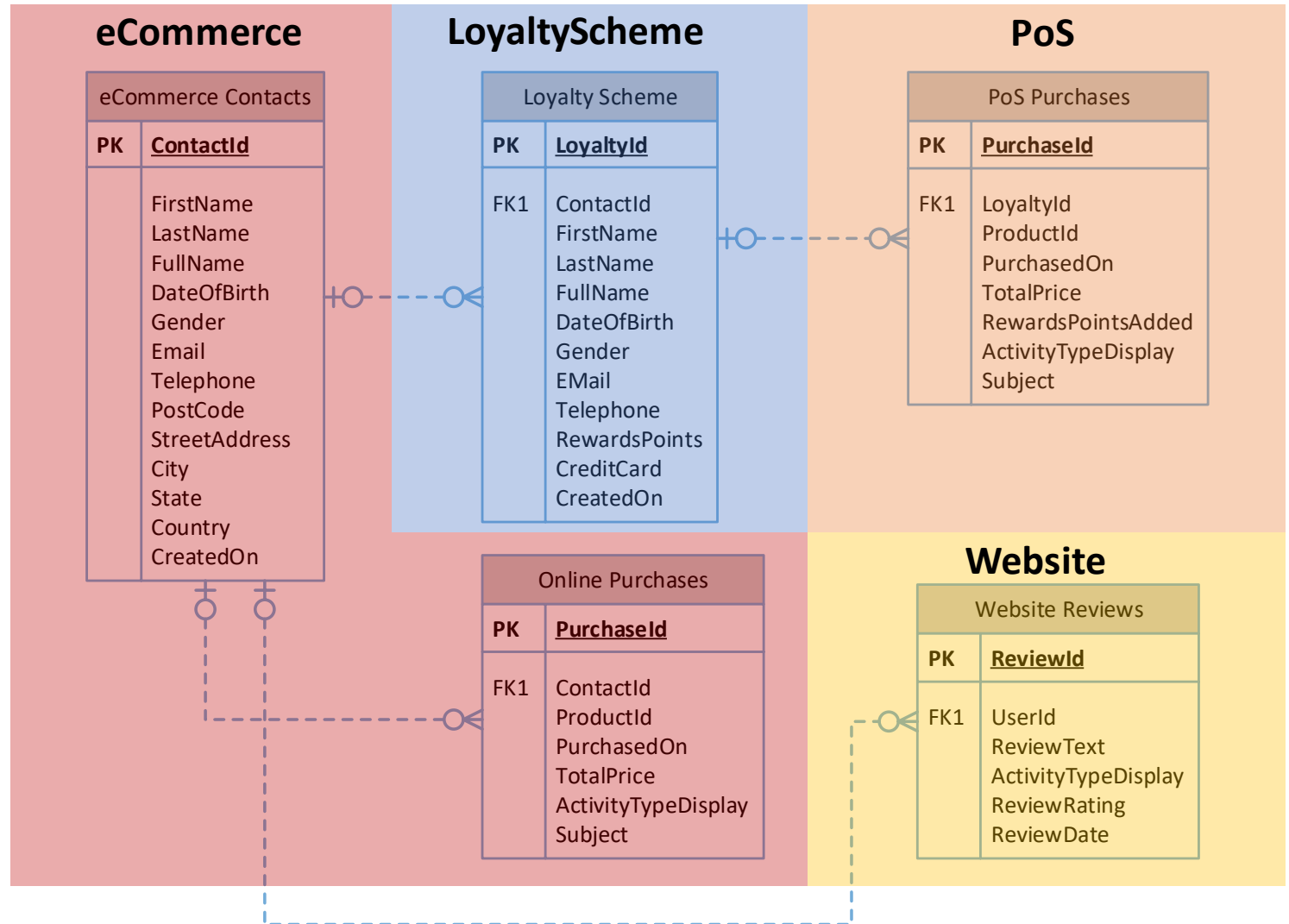
Marketing	Web	POS	Loyalty
Microsoft Cloud	**3rd Party Cloud**	**Microsoft Cloud**	**3rd Party Cloud**
Abbie.Moss19 @outlook.com	Abbie.Moss@ Work.com Cookie: 451	Card Holder: 0123453	

Social	Mobile App	Wi-Fi	Weather Data
Microsoft Cloud	**3rd Party Cloud**	**Internally Hosted**	**Third Party**
@RealAbbieM	Abbie Facebook Logon	Abbie.moss19 @outlook.com	

Datamodel

Microsoft Dynamics 365

Data Sources

- eCommerce: contacts & purchases
- Point of Sales: purchases
- Loyalty
- Website

Lab Introduction

Contoso Coffee Customer Insights Project

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

- Establish a customer data platform combining all customer related data from siloed sources

- Realise a unified Contoso Customer profile

- Calculate measures 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)

- Deliver a Contoso Coffee Greeter App, to enable in store retail staff to deliver personalised service and recommendations.

- Use PowerBI to uncover further insights for different functions of the Contoso Coffee business.

Lab 1

Data Ingestion and Unification
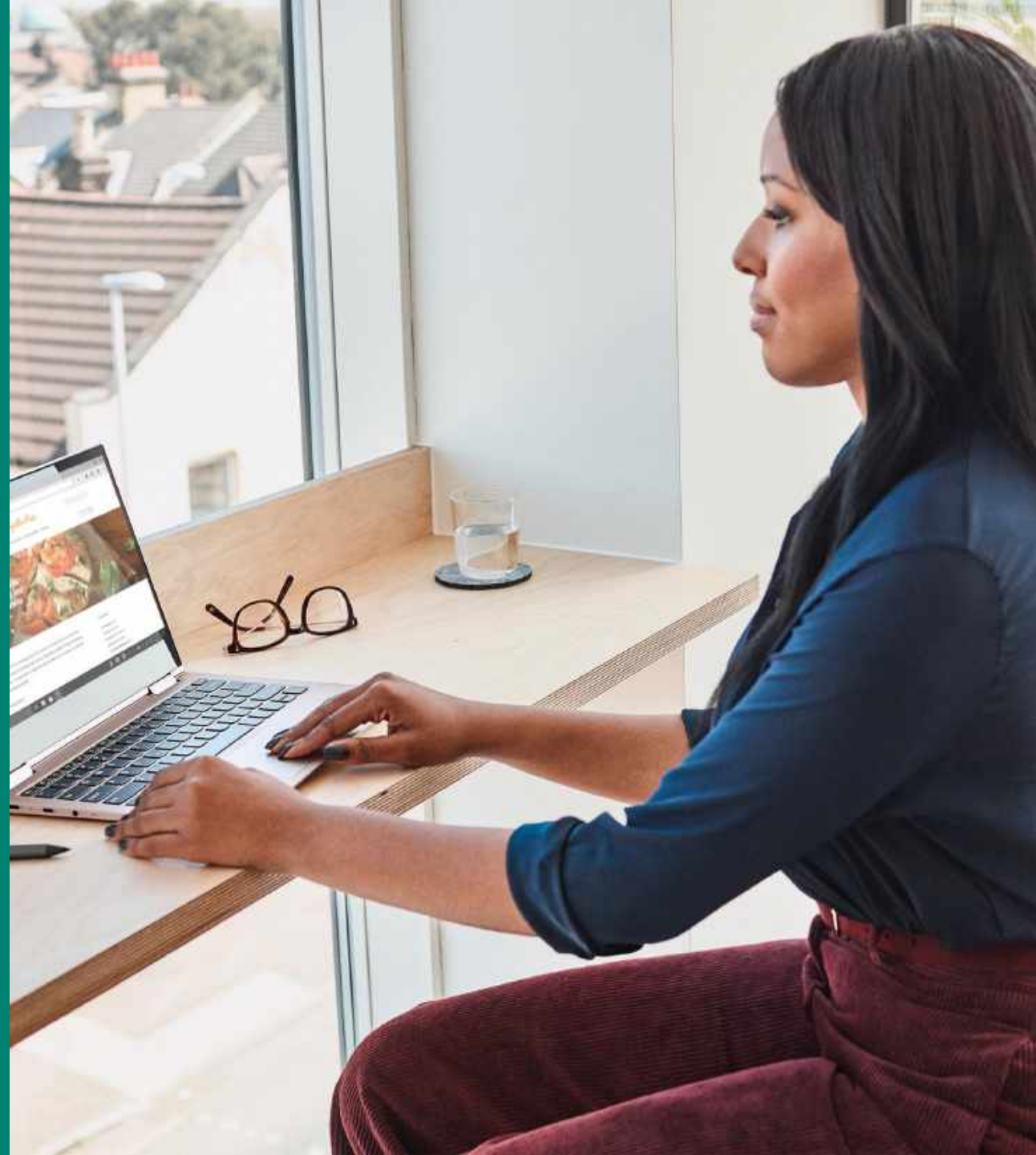
Key phases

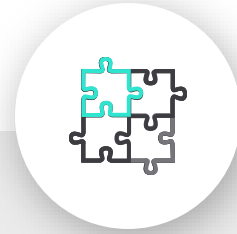## Ingestion
Bring customer and activity data from all sources

Mapping and matching
Identify and understand profile data from transactional and observational sources
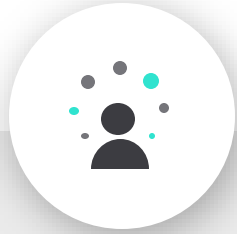
Conflation
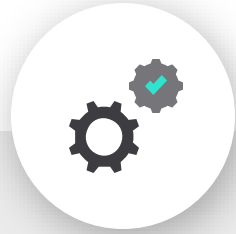Consolidate data into a single customer profile with source lineage

Enrichment
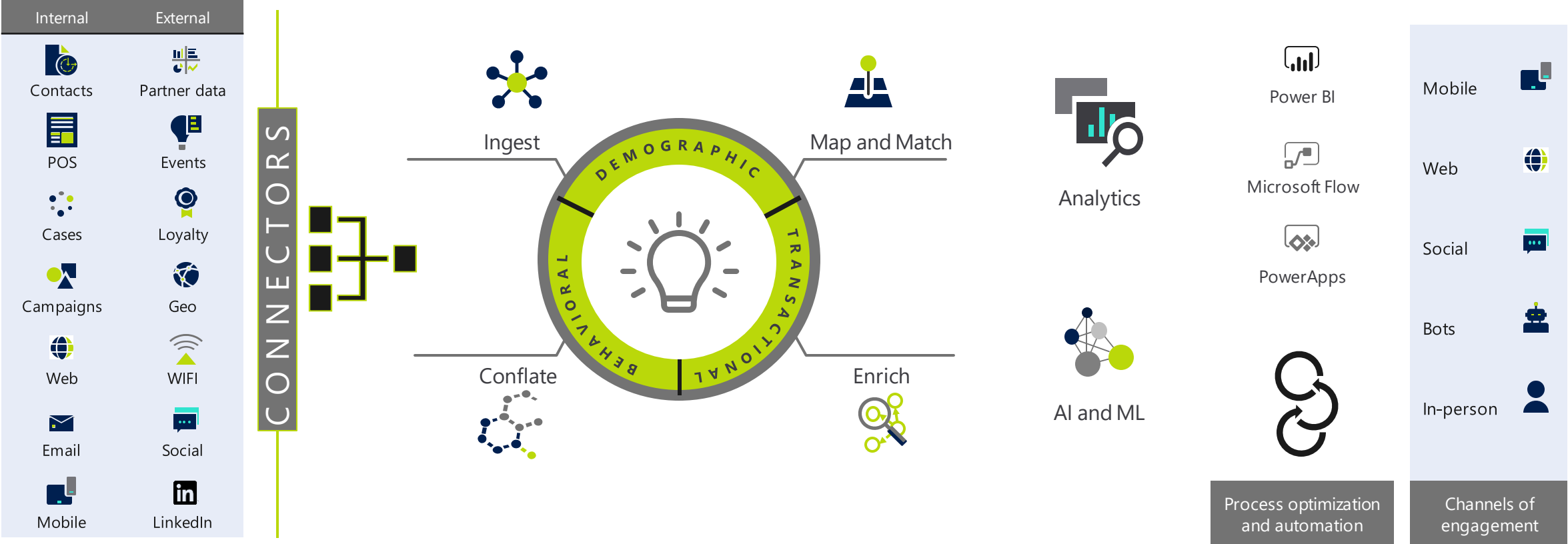Enrich profiles using AI models and proprietary signals from Microsoft Graph

Insights
Derive insights that automate and optimize processes

Action
Leverage insights across all channels of engagement with connectors and APIs

Our approach

Data — **Unification** — **Insights** — **Action**

Internal | **External**
Contacts | Partner data
POS | Events
Cases | Loyalty
Campaigns | Geo
Web | WIFI
Email | Social
Mobile | LinkedIn

CONNECTORS

Ingest
Map and Match
Conflate
Enrich

DEMOGRAPHIC
TRANSACTIONAL
BEHAVIORAL

Analytics
AI and ML

Power BI
Microsoft Flow
PowerApps

Process optimization and automation

Mobile
Web
Social
Bots
In-person

Channels of engagement

Ingesting Data into Customer Insights

- CI leverages Power Query dataflows to ingest data.

- We currently support the following connectors: Common Data Service for Apps (Dynamics), Text/CSV, Excel, Exchange, XML, Odata, Azure Blobs and different databases

6 Steps to Ingest Data

1. **Create new data source**
2. **Select right connector**
3. **Add and review entities**
4. **Apply transformations**
5. **Save query, start ingestion and validate results**
6. **Schedule refresh cycles**

Tips

- Follow the exact steps from the documentation including naming
- Data Sources versus Entities: the eCommerce data source will contain 2 entities, while all other data source will have 1 entity
- Both the datasource and entity have their own name

Data sources

Name	Entities	Actions
eCommerce	2	⋮
LoyaltyScheme	1	⋮
PoS	1	⋮
Website	1	⋮

Queries
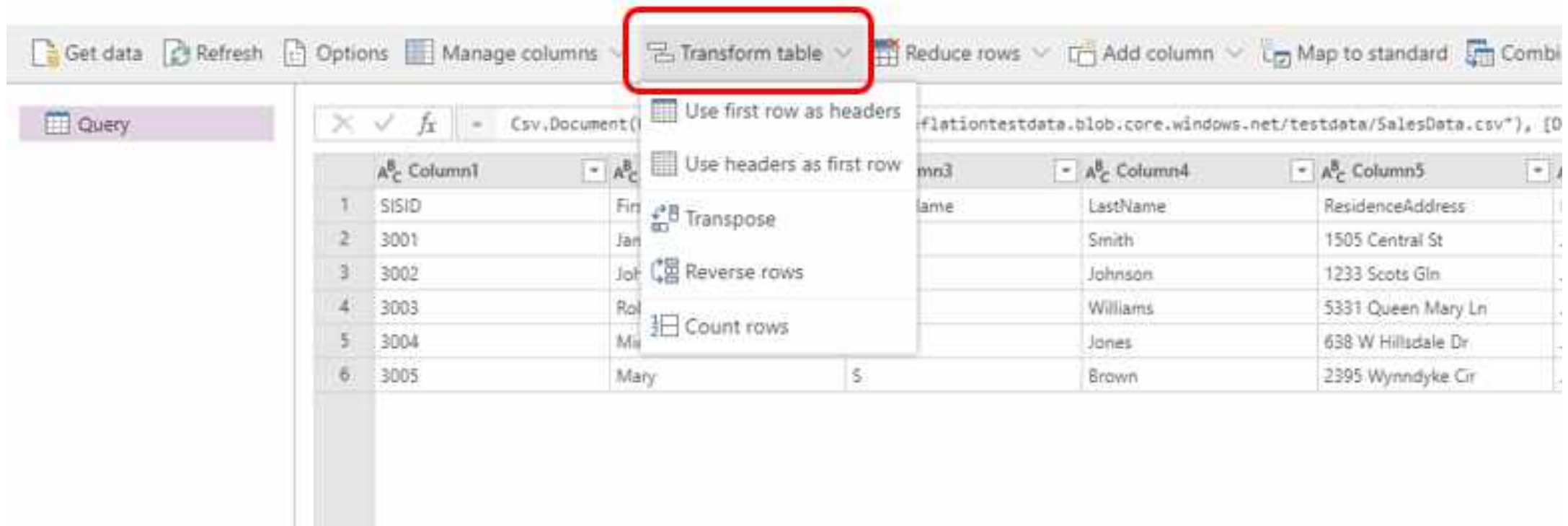
- eCommerceContacts
- eCommercePurchases

`= Table.TransformColumnTypes(#"Promoted headers", {{"DateOfBi`

	ContactId	FirstName	LastName	FullName
1	CNTID_1000	Abbie	Moss	Abbie Moss
2	CNTID_1001	Kenneth	Beraun	Beraun Kenneth
3	CNTID_1002	Anthony	Koteles	Acthony Koteles
4	CNTID_1003	Michael	Lauser	Michael Lauser
5	CNTID_1004	Richard	Nakada	Nakada Richard
6	f4444de5-664e-e911-a9ac-000d3a2d57...	Robert	Kaucher	Kaucher Robert
7	CNTID_1006	Steven	Biondi	Steven Biondi
8	CNTID_1007	Michael	Manni	Manni Michael
9	CNTID_1008	Michael	Glenna	Michael Glenna
10	CNTID_1009	James	Eiler	James Ecler

6 easy steps to get started

1. Create new data source
2. Select right connector
3. Add and review entities
4. **Apply transformations**
5. Save query, start ingestion and validate results
6. Schedule refresh cycles

Unifying Data in Customer Insights

- The data unification process lets you unify data sources that were once disparate into a single master customer dataset that provides a holistic view of your customers, a unified customer profile.

- The steps are mandatory and are performed in the exact order as described

- Matched profiles most likely will not have a direct link (e.g. customer number), but matching needs to be done on values like name and/or email address

- All three steps use AI and machine learning to automate selections, but also match data in different formats or with errors (e.g. typos)

3 Steps to Unify Data

1. **Map**
2. **Match**
3. **Merge**

Step 1: Map

- Mapping the data sources profiles fields to the Unified Customer Profile fields (based on the common data model)

- Select the entities that need to be mapped

- Validate and potentially correct (add and/or edit) the mapped fields per entity

- Mark the primary key per entity

Step 2: Match

- Specify the match order

- Identify how your entities are linked together, setting the rules

- Rules can contain multiple conditions (always AND), each with its own precision

- Precision (basic or custom) determines how exact the match will be performed (e.g. exact means: 100% identical). With custom the match probability threshold can be configured

- Normalizations determines how the data is treated, for example by removing punctuation or spaces

- Run the match

- Review, validate and optimize

Step 3: Merge

- Merging reconciles conflicting data, for example a customer name that is different in two data sources

- Review the system recommendations

- Add, remove or merge attributes

- Run the merge

Lab 2

Relationships and Measures
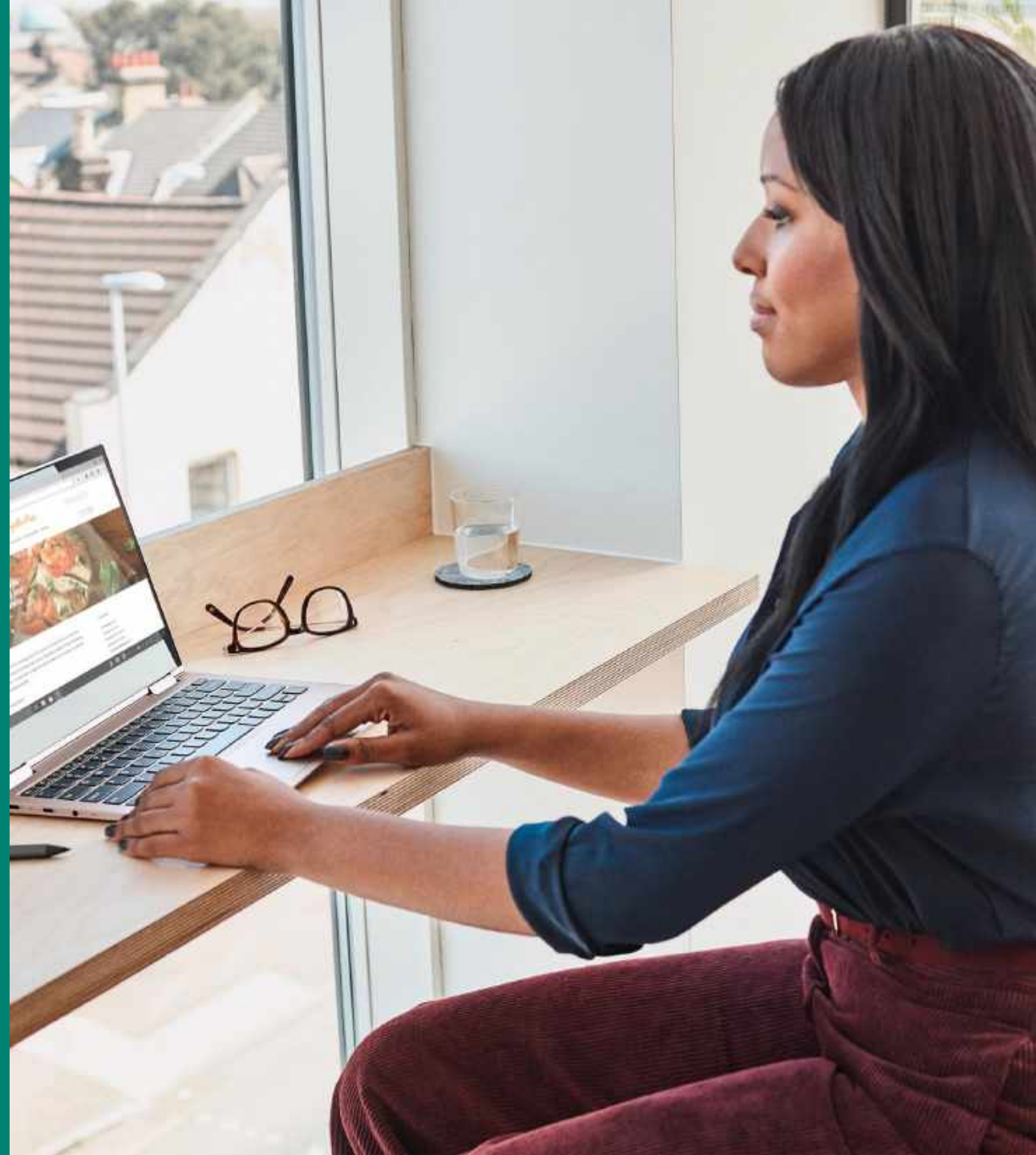
Business Goals

Business drivers	Business outcome	Top KPIs		
Growth	Increase sales growth / cross sell	Conversion rate	Average order value	Customer Lifetime Value
	Increase customer retention	Brand affinity	Net promoter score	Customer churn rate
Cost		Returns rate	Customer engagement score	Customer count
	Reduce cost to serve	Average call handling time	Call / case deflection	IT costs

What   **How**   **If**

Calculating Measures with Customer Insights

Measures enables you to define all the KPIs that best reflect your business performance and stage. It includes both customer measures such as Lifetime Value, and business measures such as Monthly Active Users (MAU).

Once created, measures will light up in various locations: Home page, Dynamics 365 Customer Card, Power BI report, etc. You can also segment your customers by your Customer Attribute measures using Segments.

3 Types

- **Customer Attribute:** A single field per customer that reflects a score, value, or state for the customer. Customer attributes are created as attributes in a new system-generated entity called 'Customer_Measure.'
- **Customer Measure:** Insights on customer behavior with breakdown by selected dimensions. A new entity is generated for each measure, potentially with multiple records per customer.
- **Business Measure:** Tracks your business performance and health of the business. Business measures can have two different outputs: a numeric output that shows on the Home page or a new entity that you find on the Entities page.

Steps to create measures

1. **Configure relationships**
2. **Create measure**

Configure Relationships

- Relationships connect entities based on common identifiers
- The result of creating relationship is also that related data can be reached starting from the unified profile

Add relationship

To create a new relationship, specify how two entities are connected to each other.

Name *

Description

Source details

Entity *

Cardinality *

Target details

Entity *

Cardinality *

Key mappings

Source key field(s) *

Target lookup/link field(s) *

Relationships

Name	Source entity	Source cardinality	Target entity
CustomerPurchasesECO	eCommercePurchases : eCom...	Many	Customer : Custome
CustomerPurchasesPOS	posPurchases : PoS	Many	Customer : Custome

Creating Measures

- Define entities, variables and definitions

- In entities all entities that are needed to calculate the measure need to be selected

- Variables are intermediate values calculated from selected entities

- The measure definition defines how chosen entities and calculated variables are aggregated

Customer Measures

- Creates multiple measures per customer profile

- The measures are divided into buckers or measures

- For example: the monthly PoS Purchases

Measure definition ⓘ *

Entity	Field	Bucket	As	Display name
OnlinePurchases : Dynamics ⌄	PurchasedOn ⌄	Year ⌄	Yearly	Yearly
OnlinePurchases : Dynamics ⌄	PurchasedOn ⌄	Month ⌄	Monthly	Monthly

+ New dimension

Six Measures for Contoso Coffee

Business Measures

- Average Store Purchase Value

- Average Web Purchase Value
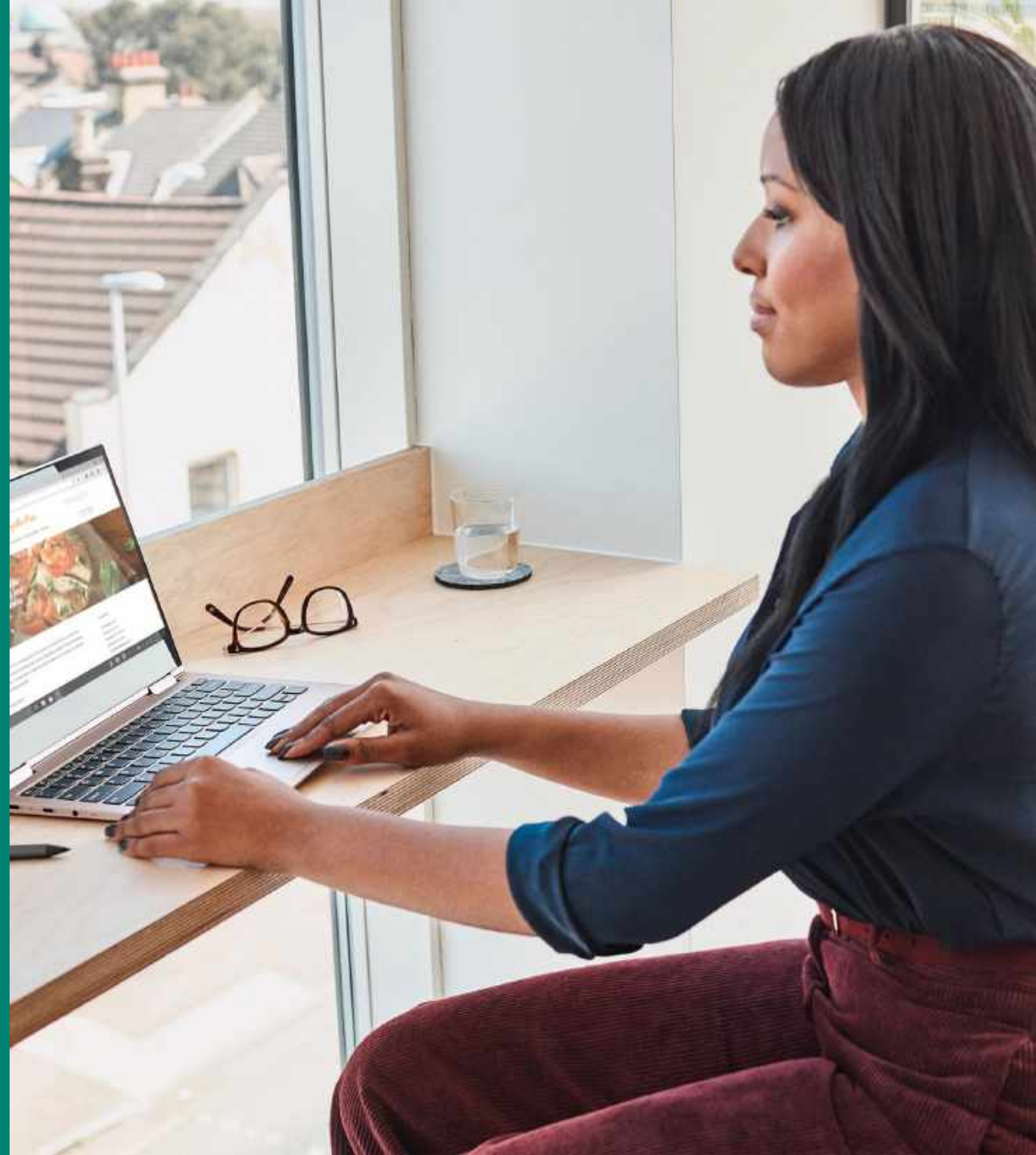
Customer Attribute

- Lifetime Spend

- Total Club Points

- Average Store Purchase

- Average Web Purchase

Microsoft

Lab 3

Segments and Customer Cards

Segmentation with Customer Insights

Segments allow you to group your customers based on demographic, transactional, or behavioral attributes.

While creating a segment, you can define complex filters around the customer entity and its graph of related entities.

Each segment, after processing outputs a set of customer entity records that satisfies the filter conditions. The records in the segment can be used to export and take action on.

2 Types

- **Static:** Processed only once upon segment creation or filter update.
- **Dynamic:** Processed according to a recurring schedule.

Quick segments

- Create a segment starting from a profile or a measure
- Condition specified on a single attribute
- The quick segment shows a division based on the selected field
- The estimated segment size provides an indication of the size of the segment
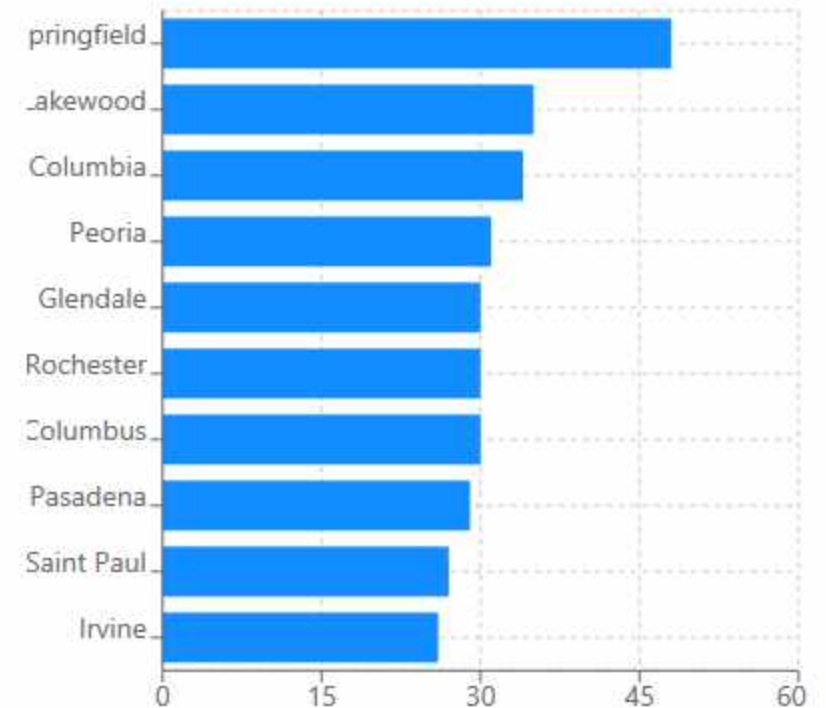
Segment Builder

- Provides the options of creating a segment based on multiple conditions (based on AND and OR conditions)

- A segment can also contain multiple groups using Union, Intersect and Except options

- Segment keep track of the processing history in time

Two Segments for Contoso Coffee

High Value Online Customers

- Customers with a higher than average online purchase value

- Average value determined based on the created business measure

Summer Promo

- Millenial customers with Store purchase value above average

- Customers born between 1981 and 1996

- Average value determined based on the created business measure

Customer Cards

- The customer card is the visualization of the unified profile within the CI app, it shows a number of attributes in a card format
- When clicking the card the unified profile will be opened and all attributes, measures and segments will be shown

Configure Search & filter index

- To search based on profile attributes a search & filter index needs to be configured

- Up to 20 attributes can be configured

- This will also allow for adding filter criteria and sorting (based on the type of the attribute)

Microsoft

Lab 4

Activities and Enrichment

Activities

- Appear on the timeline of a profile
- 'Things' to track that define interactions with the customer like orders, website review, emails, phone calls
- Can be shown in other Dynamics 365 apps
- A date attribute is required

Data Enrichment

- Additional insights based on brand affinity and category interest
- Based on similar profiles to customer
- Uses data from the Microsoft Graph
- Configuration of demographic matching using date of birth, gender and zip code
- Additional enrichments possible, for example LeadSpace

Customer Insights
Use Case & Architecture
Overview

Power end-to-end customer experiences

Sales

Lead generation

Campaigns

Cross-sell/upsell

Omni-channel support

Website

Content

Next best action

Recommendations

Marketing

Service
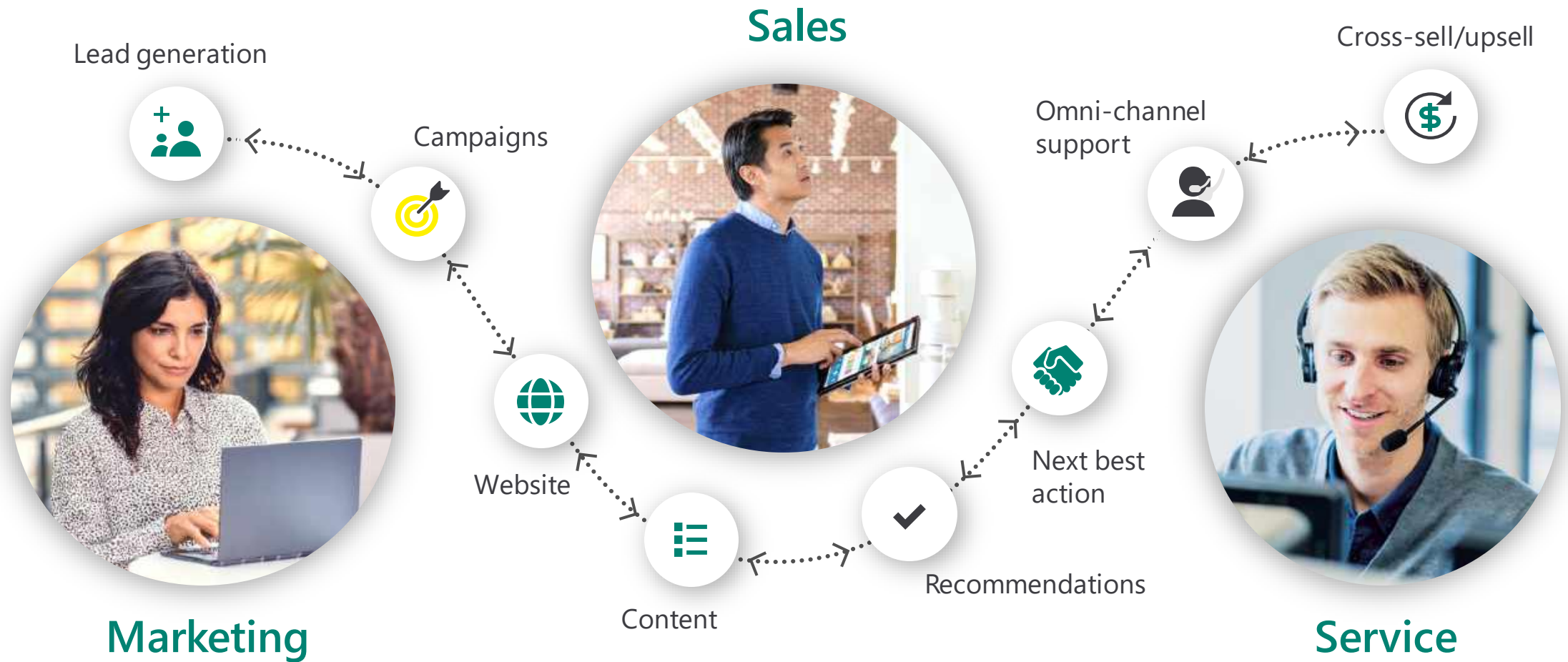
Marketing: Campaigns

Use-cases
1. Run multi-channel campaigns based on historical order data
2. Target customers based on lifetime value or order value in the last half year

How can CI help
1. Gather order data
2. Calculate lifetime value
3. Create different segments
4. Integration with Marketing Automation

Marketing: Campaigns

Marketing: Campaigns

Dynamics 365

Customer Insights

- Data unification
- Measures
- Segmentation
- Visualization
- Intelligence

ADLS

Unified (big) customer data
transactional + behavioral

Internal + external

D365 CE

- Marketing
- Sales
- Service
- Sales Insights
- Service Insights

CDS

Transactional data

Data source 1

Data source 2

Data source N

DATA INGESTION WITH DATAFLOW

CDS CONNECTOR

SEGMENT EXPORT

Marketing: Campaigns

Dynamics 365

Data source 1

Data source 2

Data source N

DATA INGESTION WITH DATAFLOW

Customer Insights

- Data unification
- Measures
- Segmentation
- Visualization
- Intelligence

ADLS

Unified (big) customer data
transactional + behavioral

Internal + external

CDS CONNECTOR

SEGMENT EXPORT

D365 CE

- Marketing
- Sales
- Service
- Sales Insights
- Service Insights

CDS

Transactional data

Marketing: Website / Content

Use-cases
1. Based on lifetime value or historical orders show different content to a website visitor
2. Include service requests

How can CI help
1. Gather order data & service requests
2. Calculate lifetime value
3. Create different segments
4. API integration
5. Personalize website content

Marketing: Website / Content

Dynamics 365

Website

**Customer
Insights**

API

- Data unification
- Measures
- Segmentation
- Visualization
- Intelligence

Data source 1

**DATA
INGESTION
WITH
DATAFLOW**

Data source 2

ADLS

Data source N

Unified (big) customer data
transactional + behavioral

Internal + external

D365 CE

**CDS
CONNECTOR**

- Marketing
- Sales
- Service
- Sales Insights
- Service Insights

CDS

Transactional data
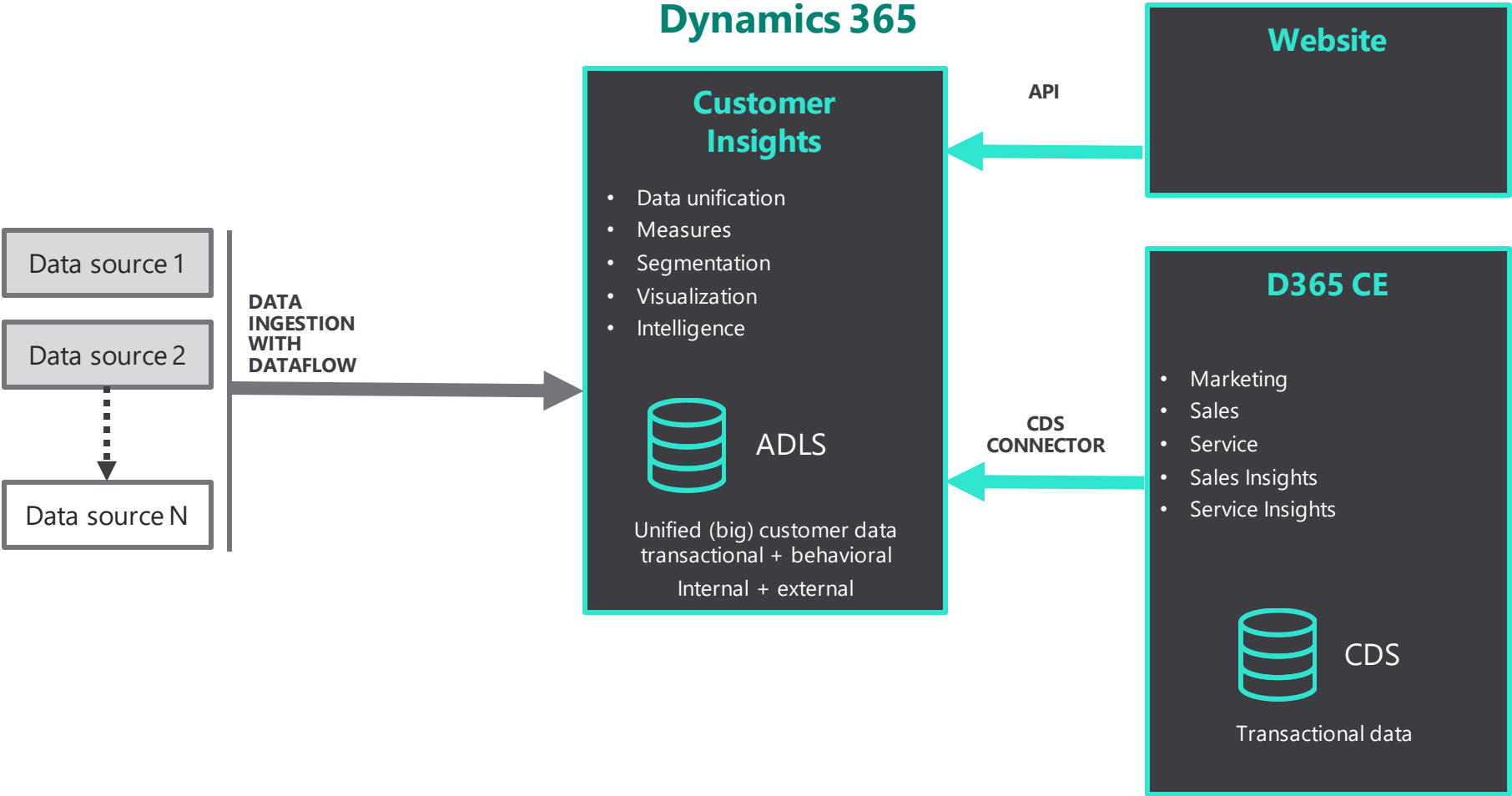
Sales: 360-degree profile

Use-cases
1. Insights in all touchpoints & interactions
2. Insights in lifetime value, churn rate

How can CI help
1. Gather all relevant data
2. Calculate measures
3. Customer Cards in Dynamics 365

Sales: 360-degree profile

Sales: 360-degree profile

Dynamics 365

Customer Insights

- Data unification
- Measures
- Segmentation
- Visualization
- Intelligence

ADLS

Unified (big) customer data transactional + behavioral

Internal + external

D365 CE

- Marketing
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- Service Insights

CDS

Transactional data

Data source 1

Data source 2

Data source N

DATA INGESTION WITH DATAFLOW

CUSTOMER CARD

CDS CONNECTOR

SEGMENT EXPORT
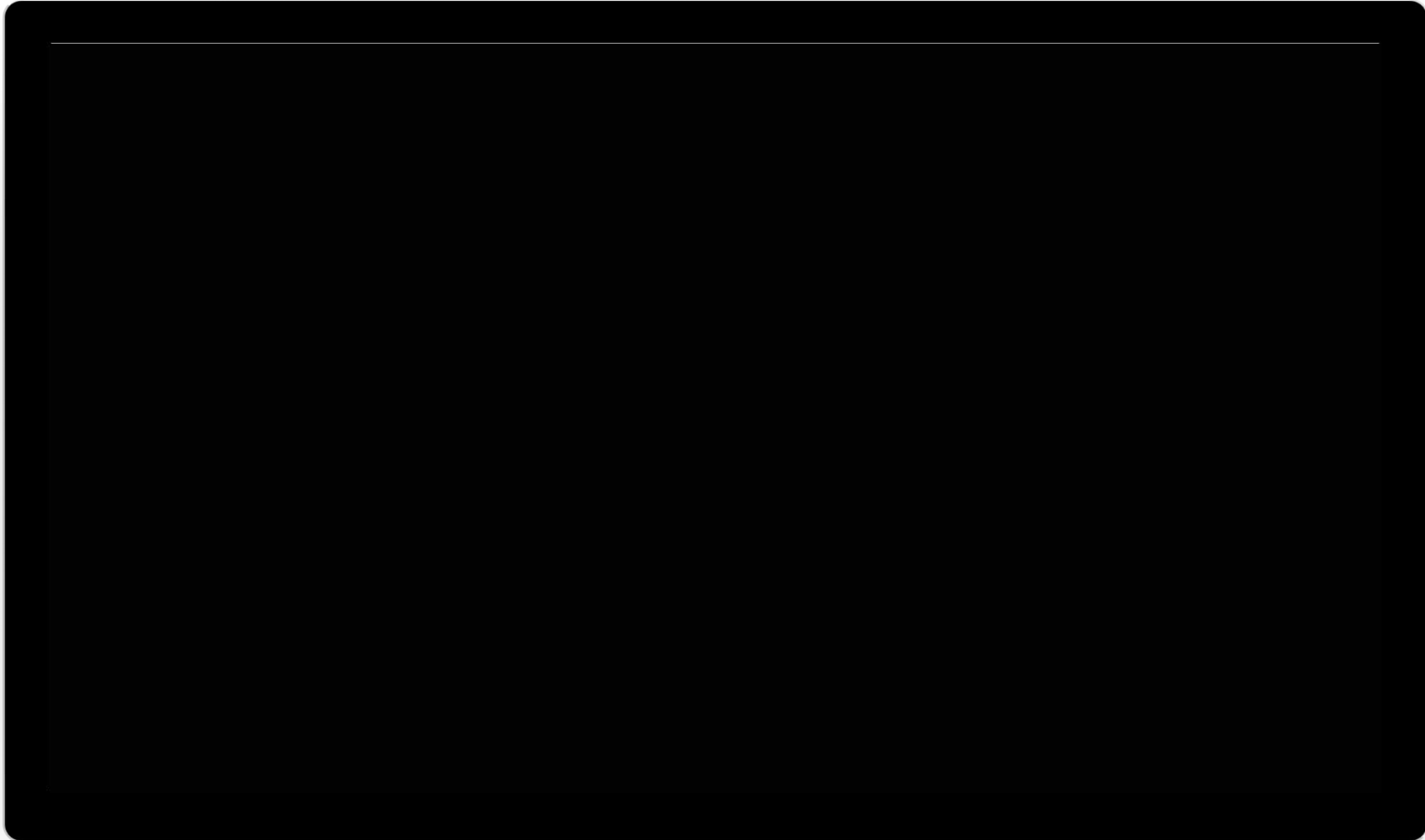
Sales: store

Use-cases
1. Insights in all touchpoints & interactions
2. Insights in lifetime value, churn rate

How can CI help
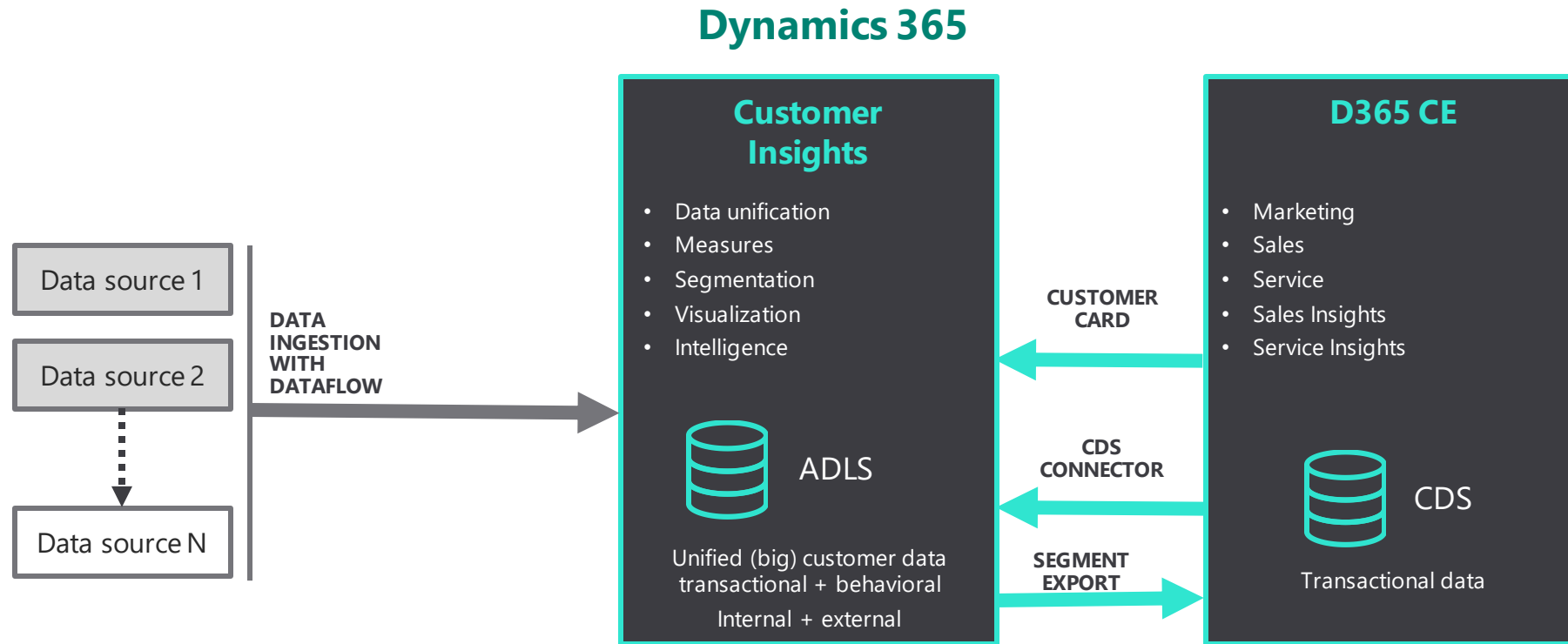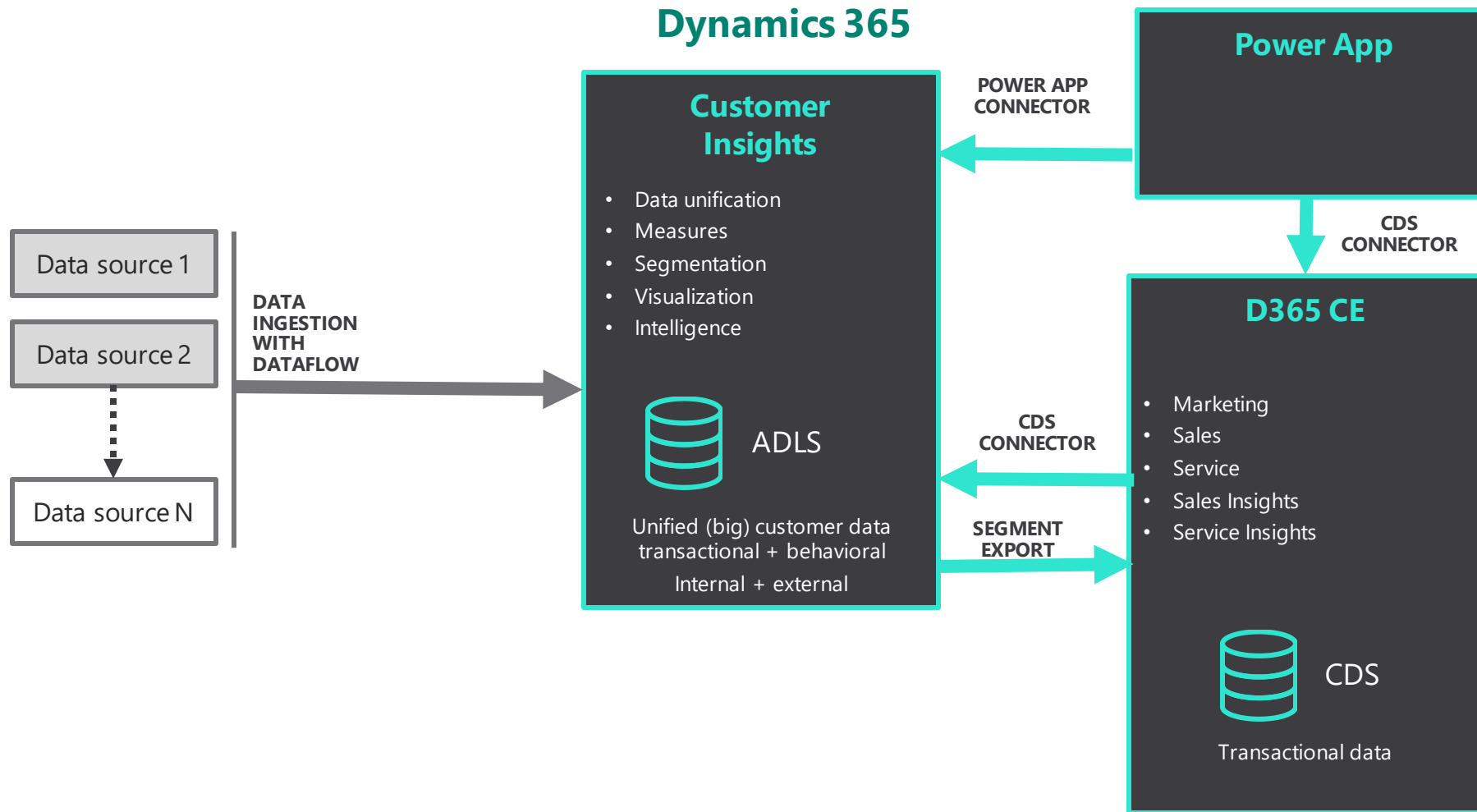1. Gather all relevant data
2. Calculate measures
3. Power App

Sales: store

Sales: store

Dynamics 365

Customer Insights

- Data unification
- Measures
- Segmentation
- Visualization
- Intelligence

ADLS

Unified (big) customer data
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Power App

POWER APP
CONNECTOR

CDS
CONNECTOR

D365 CE

- Marketing
- Sales
- Service
- Sales Insights
- Service Insights

CDS
CONNECTOR

SEGMENT
EXPORT

CDS

Transactional data

Data source 1

Data source 2

Data source N

DATA
INGESTION
WITH
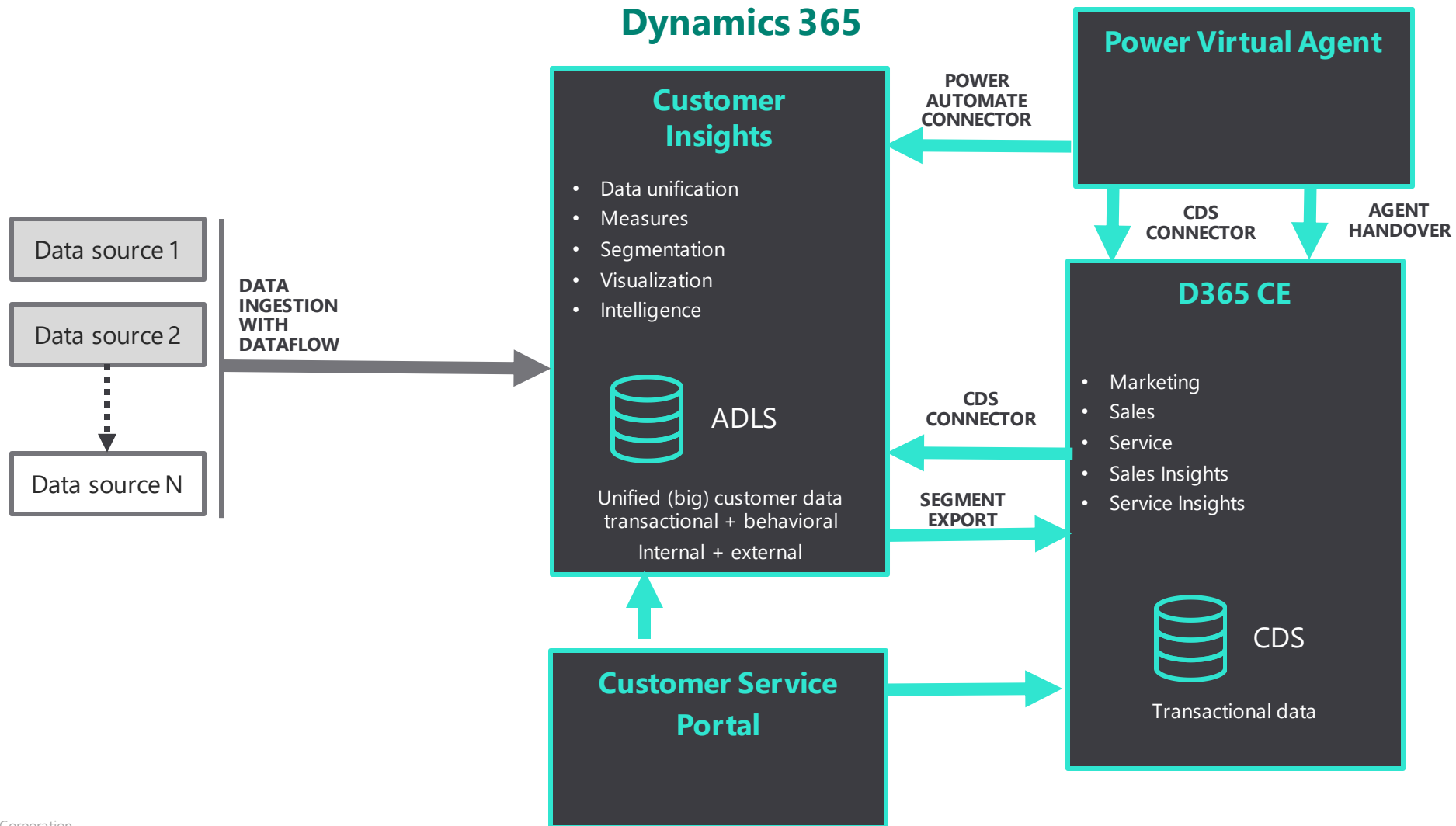DATAFLOW

Service: personalization

Use-cases
1. Service Agents has a 360-degree customer profile
2. Previous order data, service request, knowledge base search and usage history powers chat bots
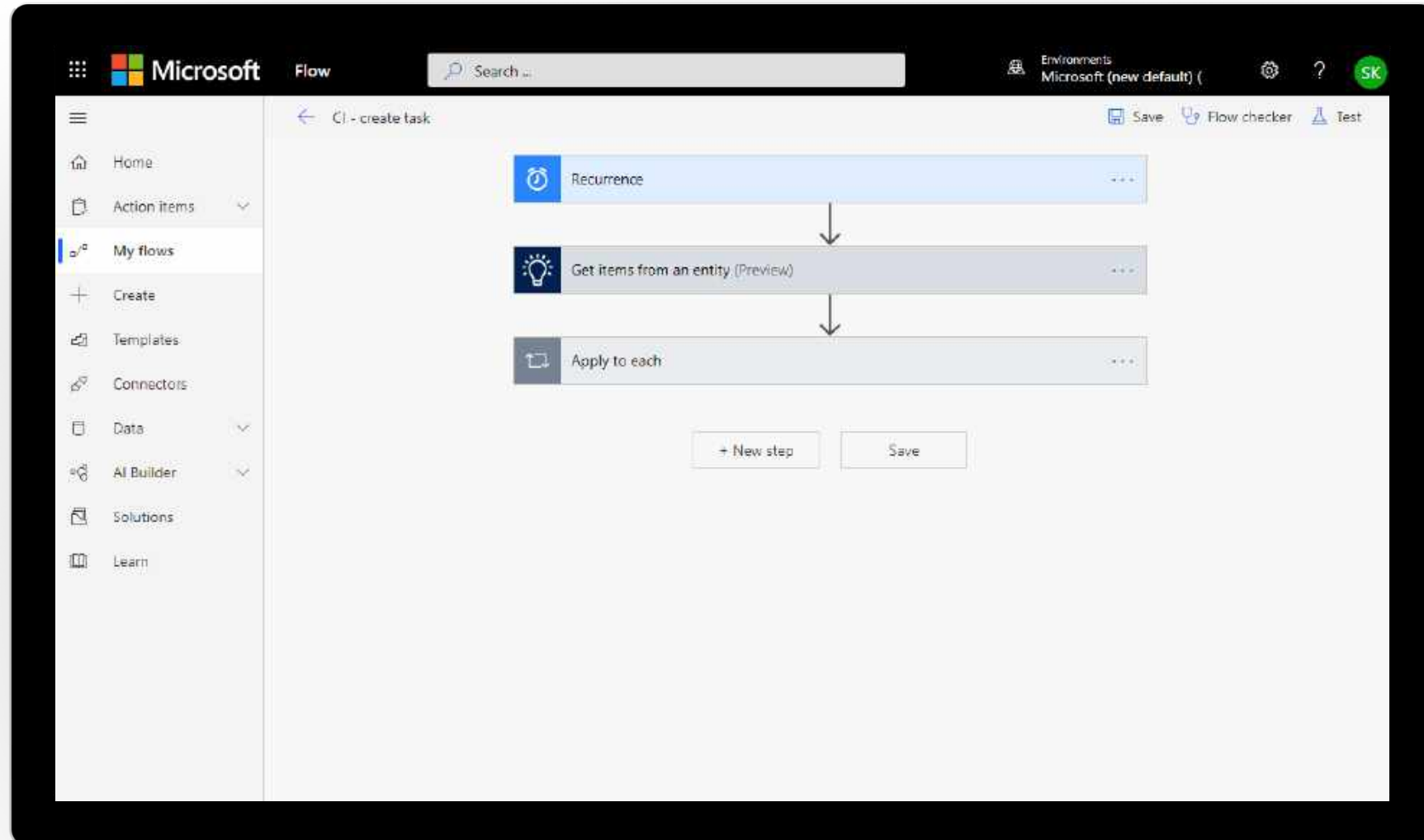
How can CI help
1. Gather all relevant data
2. Customer Cards in Dynamics 365
3. Dynamics 365 Customer Service (Omnichannel)
4. Power Virtual Agent

Service: personalization

Dynamics 365

Power Virtual Agent

Customer Insights

POWER AUTOMATE CONNECTOR

- Data unification
- Measures
- Segmentation
- Visualization
- Intelligence

CDS CONNECTOR

AGENT HANDOVER

Data source 1

DATA INGESTION WITH DATAFLOW

Data source 2

Data source N

ADLS

CDS CONNECTOR

D365 CE

- Marketing
- Sales
- Service
- Sales Insights
- Service Insights

Unified (big) customer data transactional + behavioral

Internal + external

SEGMENT EXPORT

Customer Service Portal

CDS

Transactional data

Power Automate

Other possible use case

1. Loyalty offers based on measures
2. Use Facebook advertising based on CI segment
3. Predict customer intent based on the customer profile

Power BI

Chipotle serves up inviting experiences

- Better understand known and unknown guests across in-store and online channels

- Uniquely enrich customer profiles with Microsoft's proprietary signals and 3rd party data sources

- Activate insights to drive personalized loyalty offers and digital ads across multiple destinations including Facebook.

CHIPOTLE
MEXICAN GRILL

"Customer Insights is a way for us to be able to handle all the touch points we have with customers, and it'll help us get more customers, keep the customers we have, and keep them more satisfied."

James Petersen
Chief Operating Officer & President of Retail Services

AEP Energy lights up personalized experiences

- Gain a 360-degree view of all customers - individuals and businesses
- Identify upsell/cross-sell opportunities for existing customers by using intelligent segmentation
- Empower marketing, sales, and service professionals to deliver consistent 1:1 personalized experiences

AEP ENERGY
An AEP Company

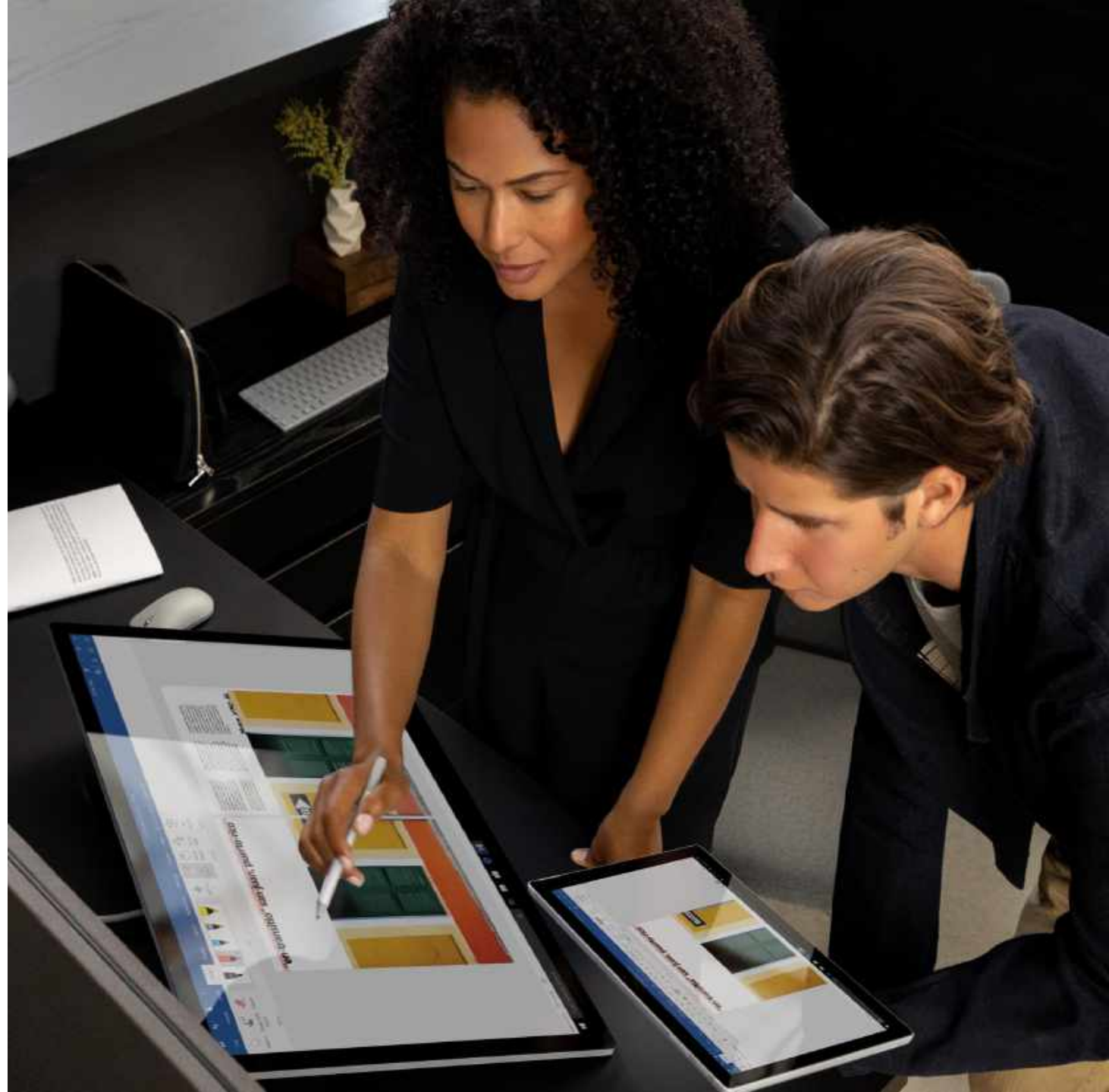Microsoft Dynamics 365

Review & Next Steps

Review

❑ *Did the workshop give a good idea of what CI can do?*

❑ *What were your goals and/or questions for today?*

❑ *Were your goals and/or questions answered?*

Next Steps

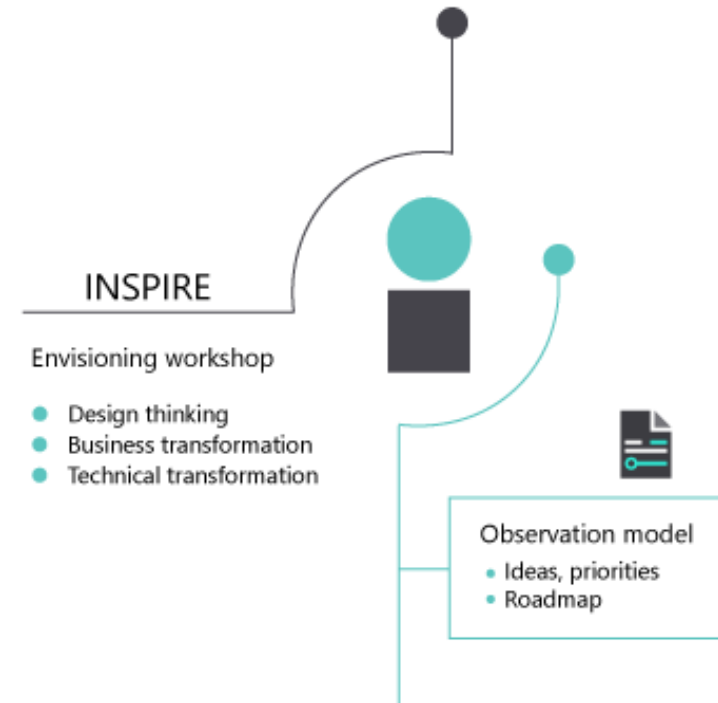- Workshop or pilot with your data
- Envisioning workshop

Workshop or pilot

- Same format as today but focusing on your own dataset

- Number and complexity of data sources determines costs

- 2-day starters package (includes determining goals, analysis data sources, segments and measures)

Envisioning Workshop

- Customer Insights part of Digital Transformation, but where to start?

- Workshop first step of the Catalyst process, with a focus on creating a business transformation plan

- Envisioning workshop helps to design and prioritize solutions for the transformation plan and solution roadmap

- 2 days workshop package (including workshop and report)

- Stakeholder involvement required

INSPIRE

Envisioning workshop

- Design thinking
- Business transformation
- Technical transformation

Observation model
- Ideas, priorities
- Roadmap

Microsoft Dynamics 365

Thank You!

Thank you for taking part in Customer Insights in a Day.

Your feedback is important, please help us to refine content for future events.

If you have any feedback or suggestions relating to Customer Insights in a Day content, please let us know

http://aka.ms/CIADFeedback