# Expert Perspective: CDPs, Al, and Modern Data Stack











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# Expert Perspective: CDPs, AI, and Modern Data Stack

## The Problem: A Unified View of Customers Needs to Be Accessible Everywhere

**Customer Data Sources** 



### **Enter CDPs**

"Packaged software that creates a persistent, unified customer database that is accessible to other systems."



## Key Benefits of a Unified View: Analytics, Orchestration & Message Selection



## **Trend 1: CDPs Going Beyond Data Management, to Intelligent Execution**

# Gartner



"CDPs optimize the timing and targeting of messages, offers and customer engagement activities, and enable the analysis of individual-level customer behavior over time."

Source: Gartner Market Guide for Customer Data Platforms (CDP), https://www.gartner.com/reviews/market/customer-data-platforms

## CDPs May Start in Data Assembly, But the Goal is To Power Real-Time Interactions & Orchestration



## Trend 2: CDPs & the "Modern Data Stack" for Analytics

**Cloud Data Warehouses Have Become** Easy to Spin Up & Scale. This makes them an important data source for CDPs.

- 1. Cloud based serverless platform
- 2. Ability to load raw data without transformation and **transform** within the data warehouse (using dbt)

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Source Data

dataset A: Stock Price History dataset B: FX Rates dataset C: Trading books

INTELLIGENT CUSTOMER ENGAGEMENT



## Challenge: Analytical Use Cases Can Be Entirely Batch Mode, **But CDP Use Cases Cannot Be**

- The entire modern analytics stack that dbt participates in is built around batch-based processing. Stitch, Fivetran, Snowflake, BigQuery, Looker, Mode, etc.—they're all targeting a batch-based use case. This may evolve over time, but that's the current state of the industry.
- Most analytics use cases do not need real-time data. Decisions based on analytics data can often be made on top of data that are up to a day old—for example, a marketing team may review ad performance weekly to decide which channels they will focus on in the upcoming week. Even Spotify has up to 24 hours delay in their data platform!

INTELLIGENT CUSTOMER ENGAGEMENT

Source: https://www.getdbt.com/blog/is-dbt-the-right-tool-for-my-data-transformations

### **CDPs Need to Also Perform Real-Time Computation:**

- CDPs must serve "inbound" use cases in CX & DX, which have to be served in true real-time
- 2. CDPs must also support near-real-time triggered use cases
- 3. CDPs must be able to do computations for 1:1 personalization (e.g. dynamic content & orchestration) that are better suited for a compute platform, not a warehouse

### **Architecting a CDP That Combines DWH + Real-Time**

#### **Real-Time Events**

- 1. APIs
- 2. Mobile App SDKs
- 3. Javascript
- Native integrations with E-Commerce, CRM, Tag Management etc.

#### **Cloud Data Warehouse**

#### Source Tables

- 1. Customer Profiles
- 2. Accounts/Households
- 3. Events
- 4. Stateful events (e.g. Orders/Subscriptions)
- 5. Product catalog/inventory

### 1. Unify DWH Profiles with Real-Time Behavior



### 4. Activate & Orchestrate On Every Channel



#### **Destination Tables**

- 1. Customer Profiles
- 2. Predictive Enrichments
- 3. Segment Membership
- 4. Engagement Data

# 2. Enrich with Predictive Intent & Recos.



# 3. Dynamic Segments without SQL

	Matching Users Q Users Email In-App	Push SMS
AND \$ (+)()	4,496	
Predictive Scores	Matched	Users
Engagement • is greater than or equal to \$ 3 \$		
Transactions	Users	4,496
Transaction is orders *	03013	4,450
within past	Email	3,632
0	In-App	521
AND 5 (II)	Push	2,687
delivered status 👻 solicit match 💠 true 💠	SMS	1,359
- +		

### Trend 3: CDPs as Enablers of Al



**Speed of building "Customer AI" models**: Can the CDP automatically extract features, and build ensemble models from a large library of primitive models?



**Productionizing the Model**: Can the CDP update & re-score customers dynamically with new data? Can it make the updated scores/outputs available to 3rd party systems?





**Customer AI + Gen AI**: Can the CDP tie "Customer AI" with "Generative AI", to power novel inbound & outbound experiences?



Auditable AI: Can the CDP keep an audit trail of AI based interactions with the customers, to ensure trust, and privacy compliance?





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### Blueshift: Powering Customer-Centric Engagement On Every Channel

### UNIFY CUSTOMER DATA

- Connect offline & online data
- Easy data modeling: households, transactions, catalog, derived events and more
- Actionable identity



**ID** 

### **PREDICT & RECOMMEND**

- Transparent & customizable Al
- Content, product and offer recommendations
- Automated propensity scoring

### **ORCHESTRATE & ACTIVATE**

- Triggered workflows and journeys
- Audience activation
- Customer insights

## Thank you!

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