CDAO Fall 2024

10x More Insights, 10x Faster
How Generative and Agentic AI Transform Analytics

10/15/2024

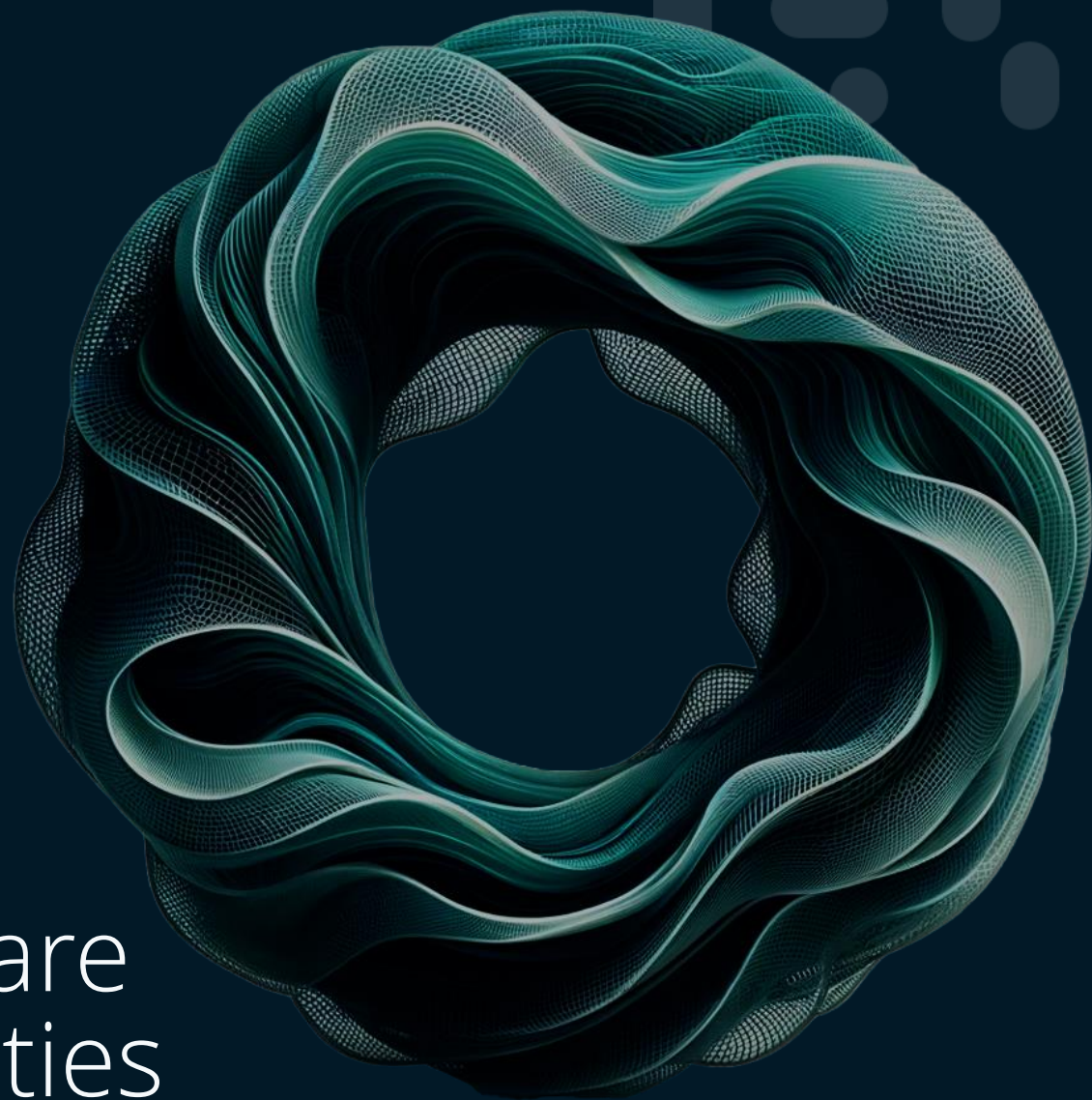Ryohei Fujimaki, CEO, dotData, Inc.

50+%

of data remains unexplored (dark)
in more than two-thirds of the US organizations.
Google Trends, 2024

Data & Analytics leaders are missing critical opportunities hidden within their data

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Data & Analytics leaders are missing critical opportunities hidden within their data

Customer Churn
- **Customer ID**
- **Account Churn**
- **Churn Date**

What customer behaviors drive customer churn?

Customer Info
- **Customer ID**
- Gender
- Age
- Zip Code
- Occupation
- . . .

Online Banking
- **Customer ID**
- **Access Date**
- Session ID
- Access URL
- Duration
- . . .

Credit Card Pmt
- Card ID
- **Customer ID**
- **Due Date**
- Balance
- Payment Amt
- . . .

Acct Balance
- **Customer ID**
- **Account ID**
- Transaction Type
- Amount
- **Timestamp**
- . . .

Promotion
- **Account ID**
- **Customer ID**
- Promotion Type
- **Offer Date**
- Response
- . . .

Credit Score
- **Date**
- **Customer ID**
- Credit Score
- . . .

Data & Analytics leaders are missing critical opportunities hidden within their data

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Customer ID
Credit Score
. . .

Value of Insights

50+% data are still unexplored

2   3   4   5   6   7
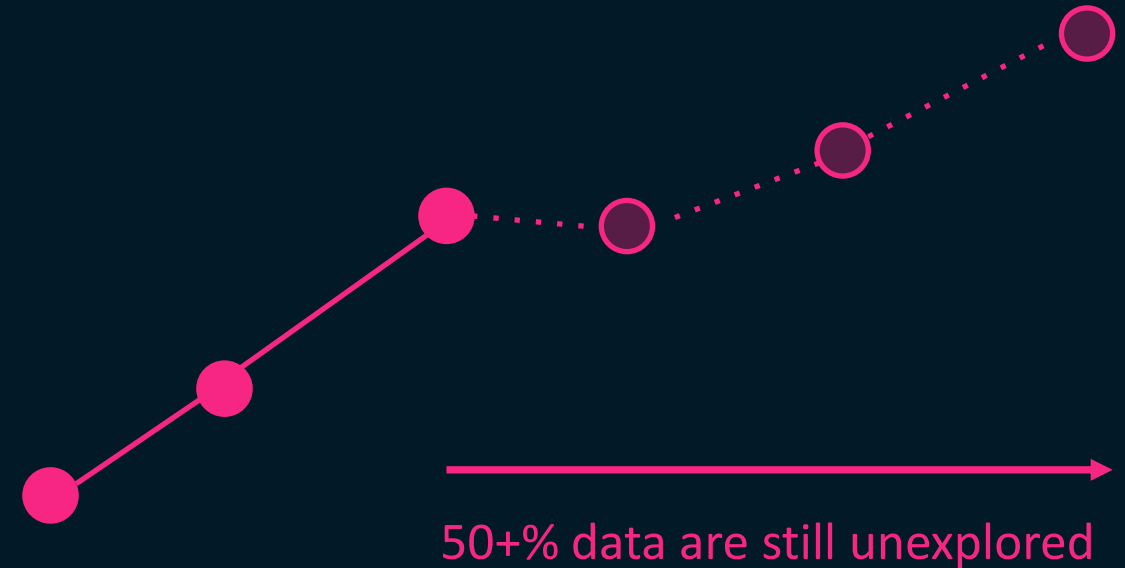
# of Tables / Sources

HYPOTHESIS-DRIVEN APPROACH

Rinse & Repeat

HYPOTHESIS → TABLES → COLUMNS → FILTERS → AGGREGATIONS → VISUALIZE → ACTIONS

WEEKS to MONTHS
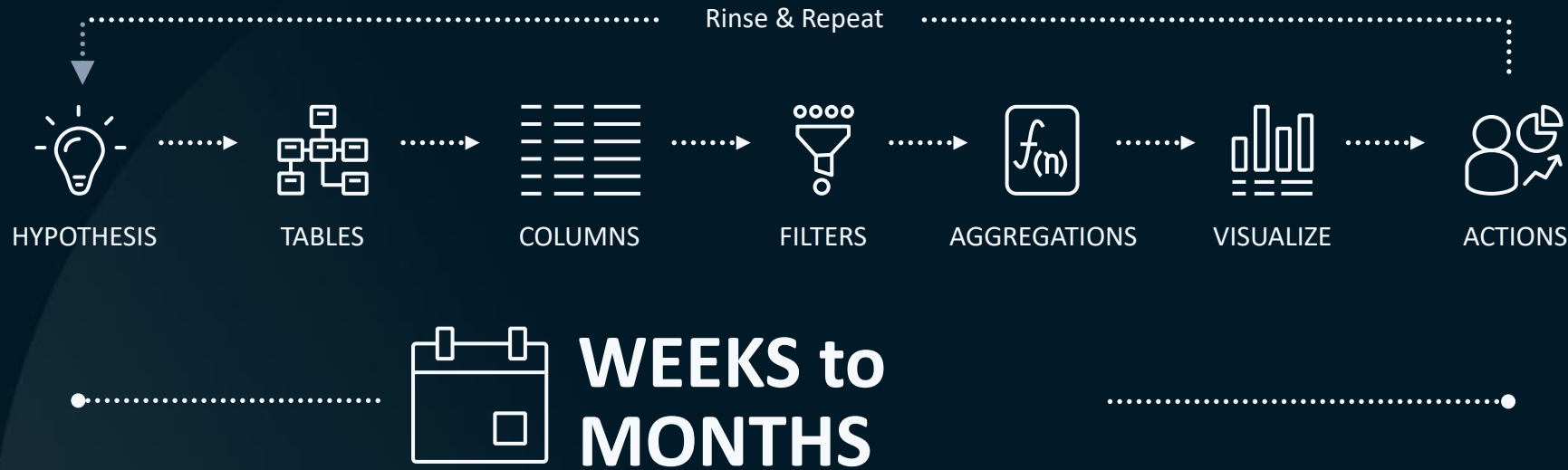
"The biggest problem is that you can't just throw more bodies at the data."

Exeter®

AI Revolutionizes BI & Analytics – but How?

No-code & Self-Service

NLP-based & Copilot

Generative Era

Agentic Era
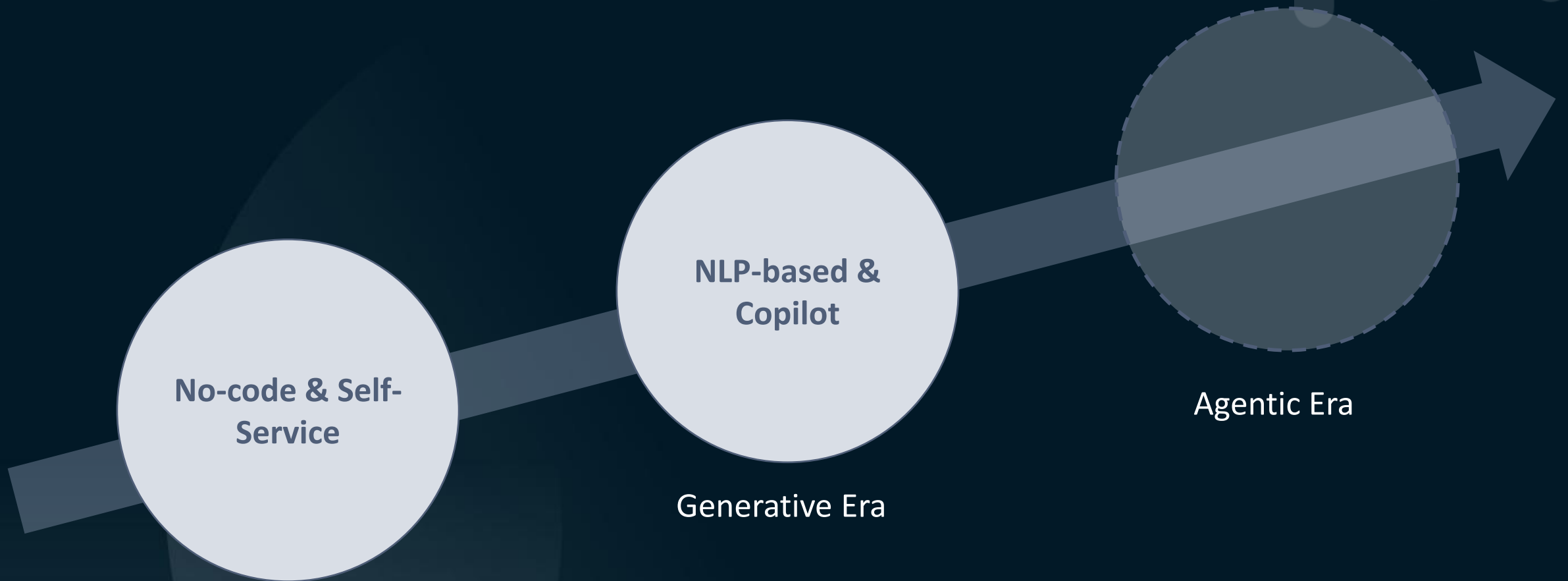
You have to know what to ask for, even though you are seeking unknown-unknowns.

Toward Agentic AI in Enterprise Analytics

|					
User executes complex data & visualization pipeline, manually	User asks a simple question in plain English to visualize data.	AI can analyze, explore, interpret complex data, but user still takes control.	AI executes the analytics workflow, but user must give feedback as needed.	AI creates analytics reports autonomously in predefined conditions.	AI self-evolves analysis by collecting data, extracting drivers, and taking actions.
NO AUTOMATION (No-code BI)	**ASSISTANCE (NLP & Copilot)**	**PARTIAL AUTOMATION**	**CONDITIONAL AUTOMATION**	**HIGH AUTOMATION**	**FULL AUTOMATION**
The driver has full control	Vehicle can perform one autonomous task at a time	the vehicle can brake, accelerate, & steer, but driver is still in control	the vehicle performs dynamic driving, but the driver must respond as needed	the vehicle can operate autonomously in predefined conditions, and handle critical situations	the vehicle is fully autonomous and does not require a driver
0	1	2	3	4	5

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Generative AI – A Game Changer for Data & Analytics?
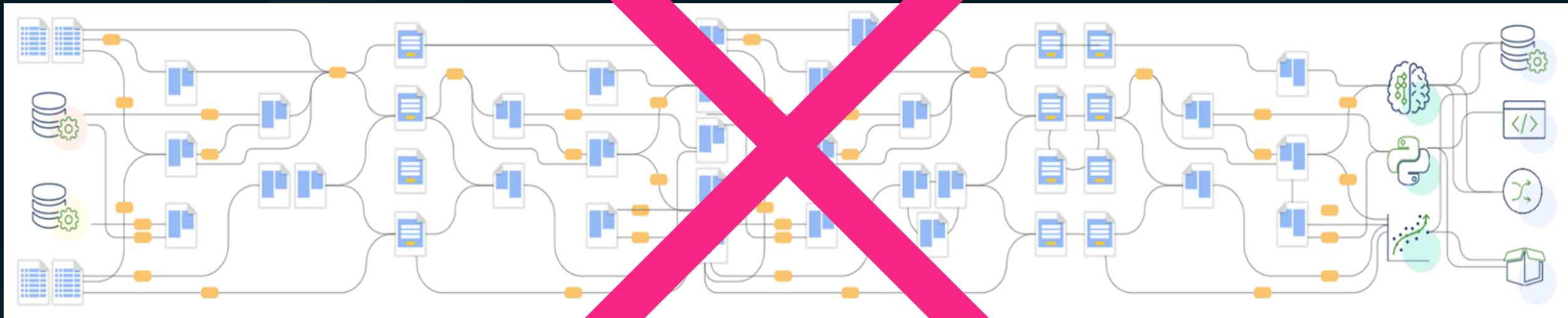
Yes, but...

Hallucinations
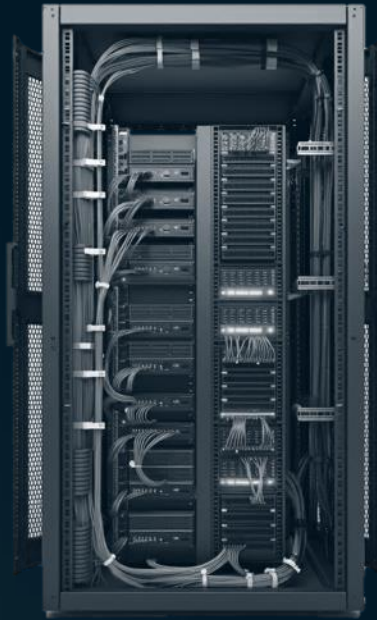
High Cost

Poor explainability

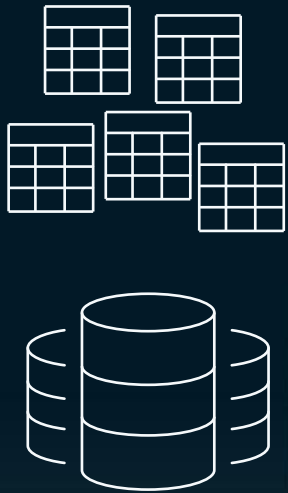Generative AI alone cannot change the game

WE NEED THE DATA TO SPEAK FOR ITSELF

Complex Pipelines Need to Go Away

dotData Insight: 10x More Insights, 10x Faster

Minutes to Explore Your Complex Data

Business Data

Select your KPIs and tables to be explored.

Extract ALL key signals and drivers

Derive actionable interpretations

Take actions via API integrations

Actions APIs

dotData's AI

Generative AI

FORRESTER®

"... powerful and scalable, even across tens of tables with billions of rows..."

Exeter®

"dotData solves a problem I've been trying to solve for 20+ years."
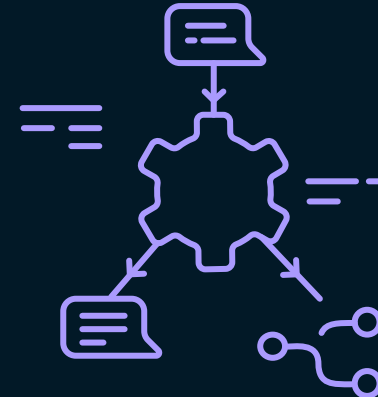
Agentic AI Lv. 2-3: dotData's AI + Generative AI

dotData's AI

Generative AI

Process millions and billions of records

Detect statistical facts and signals

Optimize complex combinations

FASTER, MORE EFFICIENT, ACCURATE
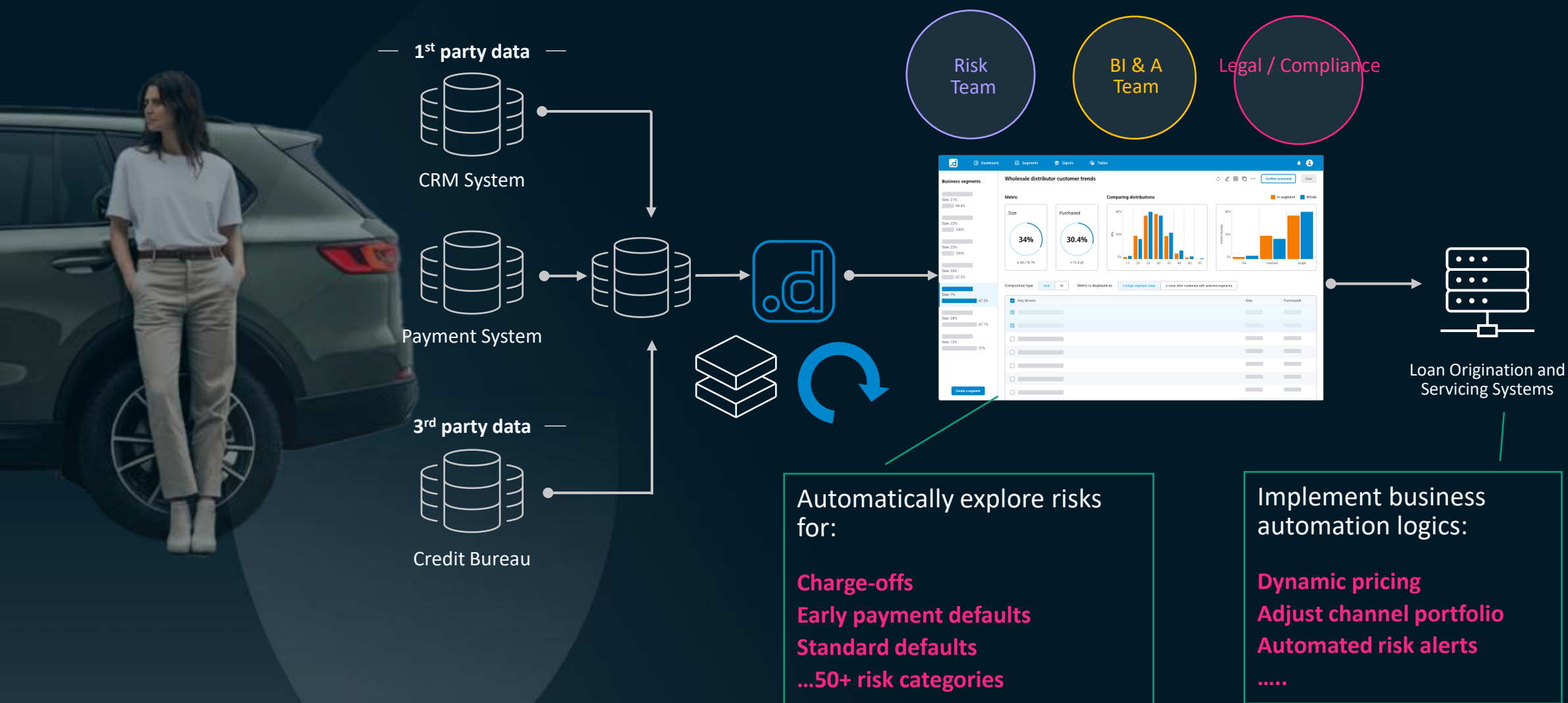
Understand domain knowledge & context

Explain & interpret interesting findings

Ideate hypotheses behind data signals

DEEPER, MORE CREATIVE, MORE FLEXIBLE

Case Study : Automated Risk Detection System

15% decrease in default rate over 400,000 customers

1ˢᵗ party data

CRM System

Payment System

3ʳᵈ party data

Credit Bureau

Risk Team

BI & A Team

Legal / Compliance

Loan Origination and Servicing Systems

Automatically explore risks for:

Charge-offs
Early payment defaults
Standard defaults
....50+ risk categories

Implement business automation logics:

Dynamic pricing
Adjust channel portfolio
Automated risk alerts
.....

Case Study : Yield Maximization Driver Analysis

Discover bio-chemistry conditions resulting in higher yields

LOB Experts

DS Team

Input conditions

Fermentation Tank

Operating Conditions
Tank Conditions

Multi-million USD to run a SINGLE batch

Output conditions

Manufacturing Process

What conditions will lead to **the yield rate exceeding 2%**?

Change **Change the tank operation and control.**
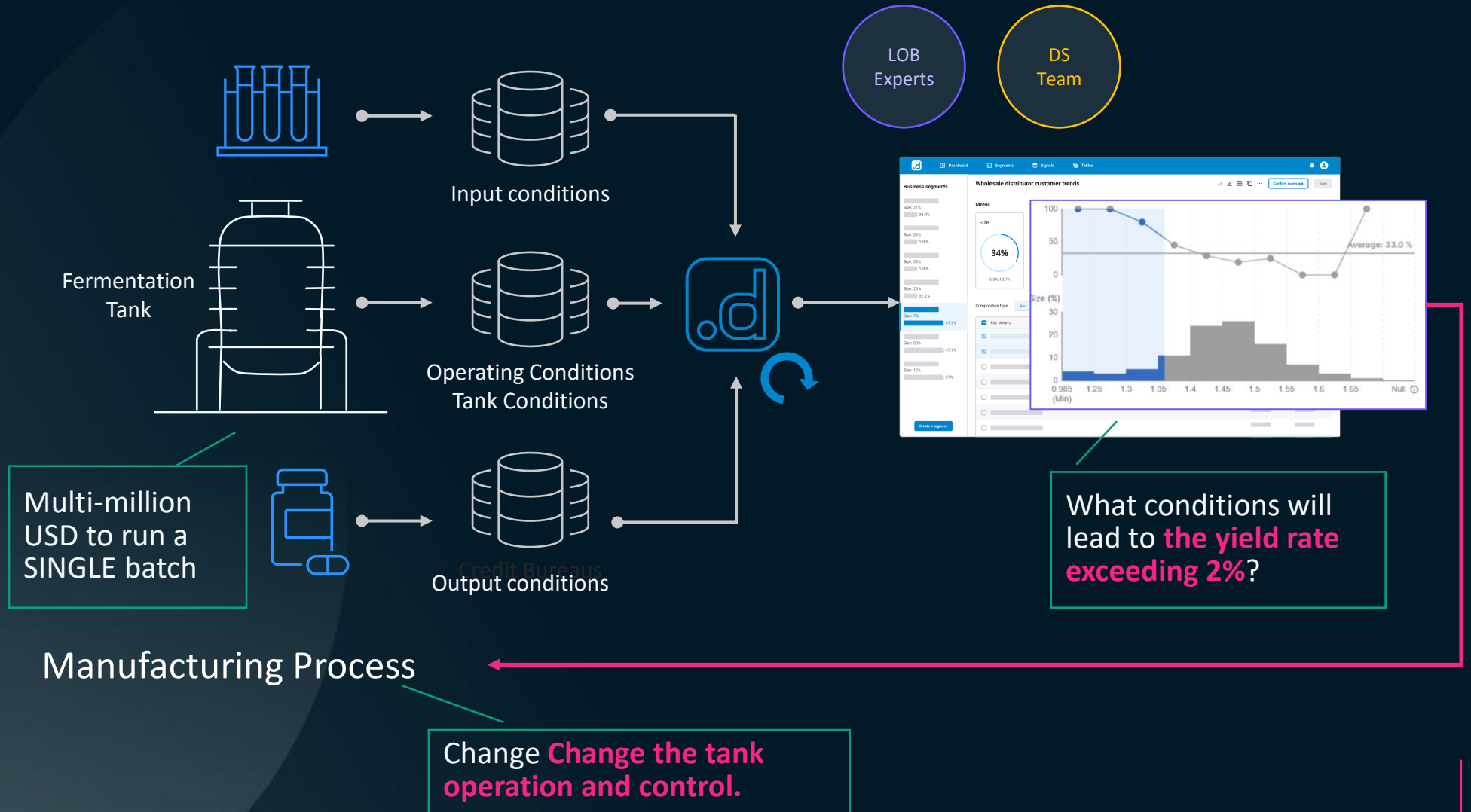
Case Study : AI Sales (B2B) Navigation System

150,000+ navigations, 50,000+ sales attempts, 5% increase in wins

CRM

Call Center

Device IoT

Credit & Payment

LOB Experts

BI & A Team

Field Sales

Account Sales

Inside Sales

Sales RPA System

Identify **successful deal conditions for every {customer, product/service} pair**.

Automatically create calendar schedules and enforce sales client engagements.
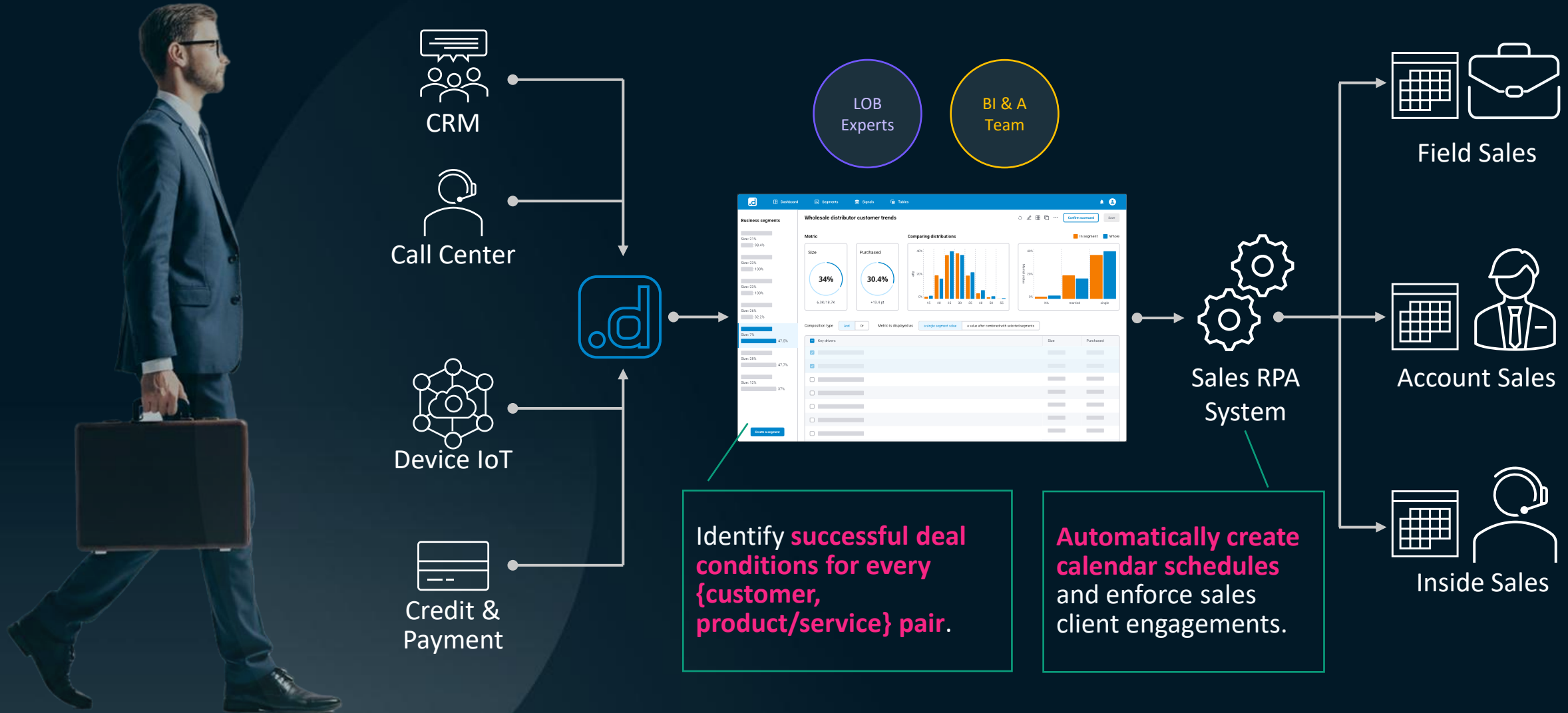
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