Identity – Creating a 1st Party 360° view

Why your organization needs an all-hands-on-deck approach to 1st party data strategy

October 24, 2019

TODAY'S PRESENTER

Hemant Deulkar

Sr. Director Market Planning
LexisNexis Risk Solutions

LEXISNEXIS RISK SOLUTIONS IS PART OF RELX

RELX

RELX is a global provider of information-based analytics and decision tools for professional and business customers. The Group serves customers in more than 180 countries and has offices in about 40 countries.

It employs over 30,000 people, of whom almost half are in North America.

Learn more at www.relx.com

Operating in 4 major market segments:

Scientific, Technical & Medical

ELSEVIER

Risk & Business Analytics (RBA)

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THE AGE OF HYPER-PERSONALIZATION & HYPER-TARGETING IS HERE

Data that is "good enough" is no longer good enough

Consumer Expectations + Technology Evolution

Consumer Expectations
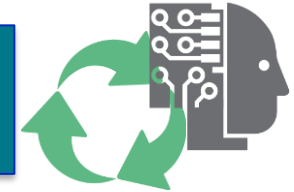
- 80% say they will choose & spend more on brands that offer personalized experience[1]
- 86% expect you to know them as they move from channel to channel[2]
- 36% say brands are at-risk to lose them because of poor personalization[1]
- Feel "very frustrated" when:[3]
  - Encountering offers or experiences that are not personalized or relevant (34%)
  - A brand fails to recognize them (31%)
- 2.1x more likely to view personalized offers as important versus unimportant[4]

Technology Evolution

- Accelerated technology & device adoption – only accelerated by COVID
- Data-driven business models
- Machine Learning
- Artificial Intelligence
- Addressable Advertising
- Advanced Recommendationing

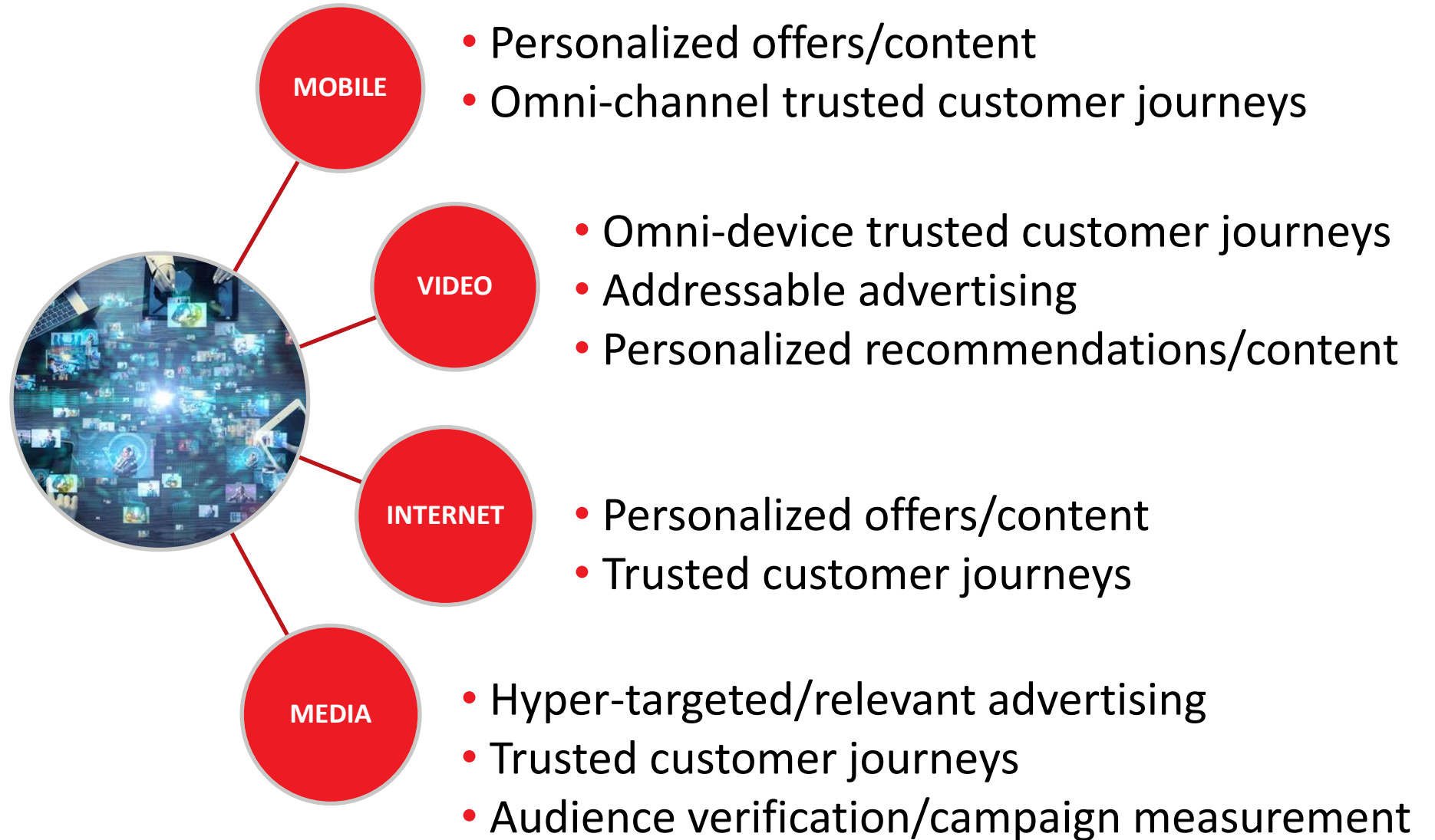**According to McKinsey, 85% of CMOs believe their company is not ready!**

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[1] Gartner, 2020
[2] Gladly, 2020
[3] RedpointGlobal, 2019
[4] Salesforce, State of the Connected Consumer 2020

CONSUMER EXPECTATIONS FOR OUR INDUSTRY

MOBILE
- Personalized offers/content
- Omni-channel trusted customer journeys

VIDEO
- Omni-device trusted customer journeys
- Addressable advertising
- Personalized recommendations/content

INTERNET
- Personalized offers/content
- Trusted customer journeys

MEDIA
- Hyper-targeted/relevant advertising
- Trusted customer journeys
- Audience verification/campaign measurement

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THE DEMISE OF 3rd PARTY COOKIES & ANONYMOUS DEVICE IDENTIFIERS IS CREATING A PERFECT STORM

2017
Apple releases first iteration of intelligent tracking prevention.

2018
Firefox starts blocking Third Party Cookies by Default.

2019
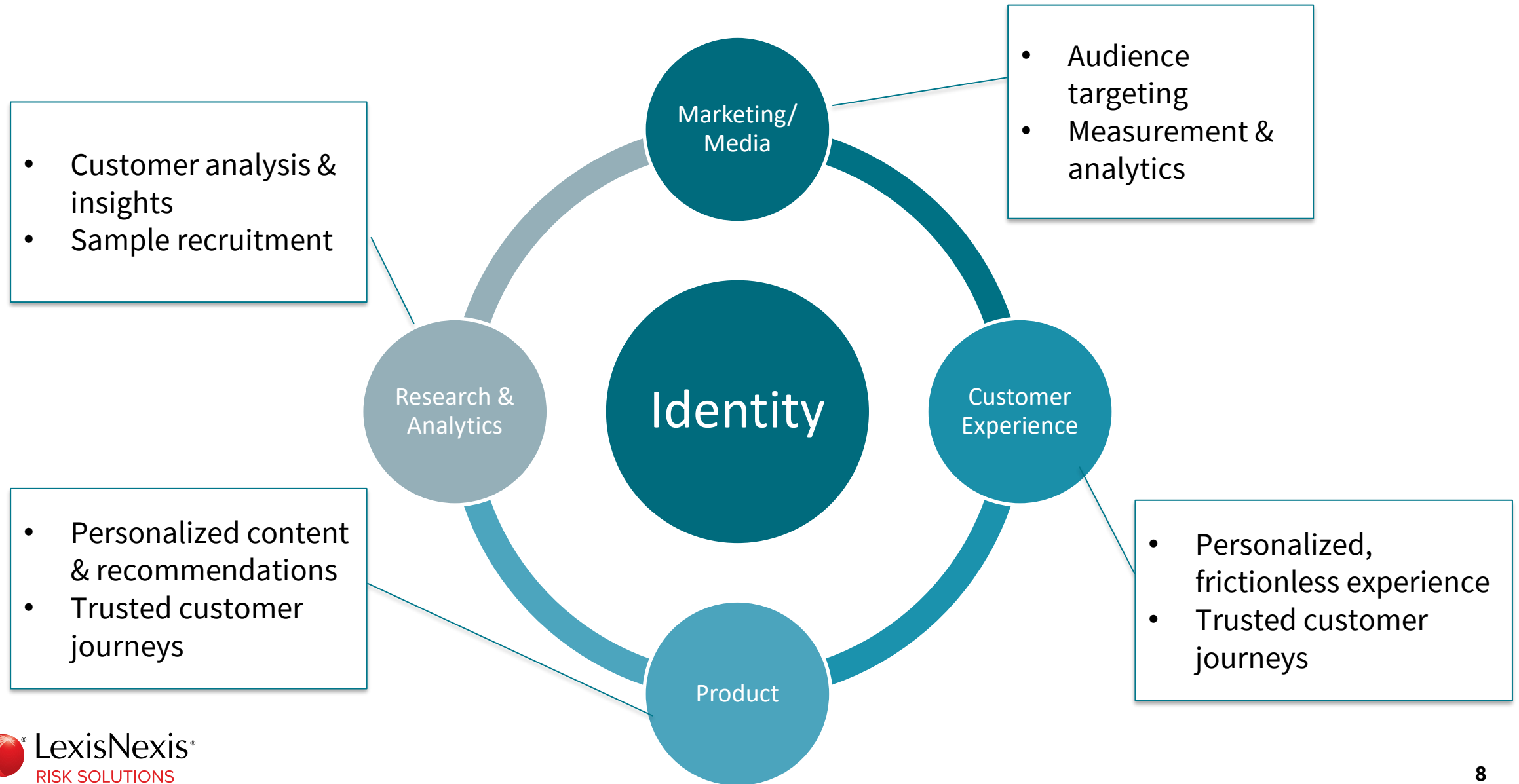Apple releases latest iteration of intelligent tracking prevention..

2020
Google will end support of Third Party Cookie tracking Apple decision to eliminate MAID

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THE RESULT? THE 3RD PARTY COOKIE IS CRUMBLING & 1ST PARTY DATA STRATEGY IS NOW AN URGENT STRATEGIC IMPERATIVE

MAJOR IMPACTS TO ALL THE AREAS THAT WE MOST NEED TO IMPROVE

Audience targeting

- Audience targeting
- Measurement & analytics

Research & Analytics

- Customer analysis & insights
- Sample recruitment

Marketing/Media

Identity

Customer Experience

- Personalized, frictionless experience
- Trusted customer journeys

Product

- Personalized content & recommendations
- Trusted customer journeys

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U.S. marketers are expected to invest $2.6B in identity resolution programs by 2022 — a 188% increase over the course of four years*

71% of marketers surveyed by Forrester last year said they struggle with the ability to maintain accurate IDs over a period of time
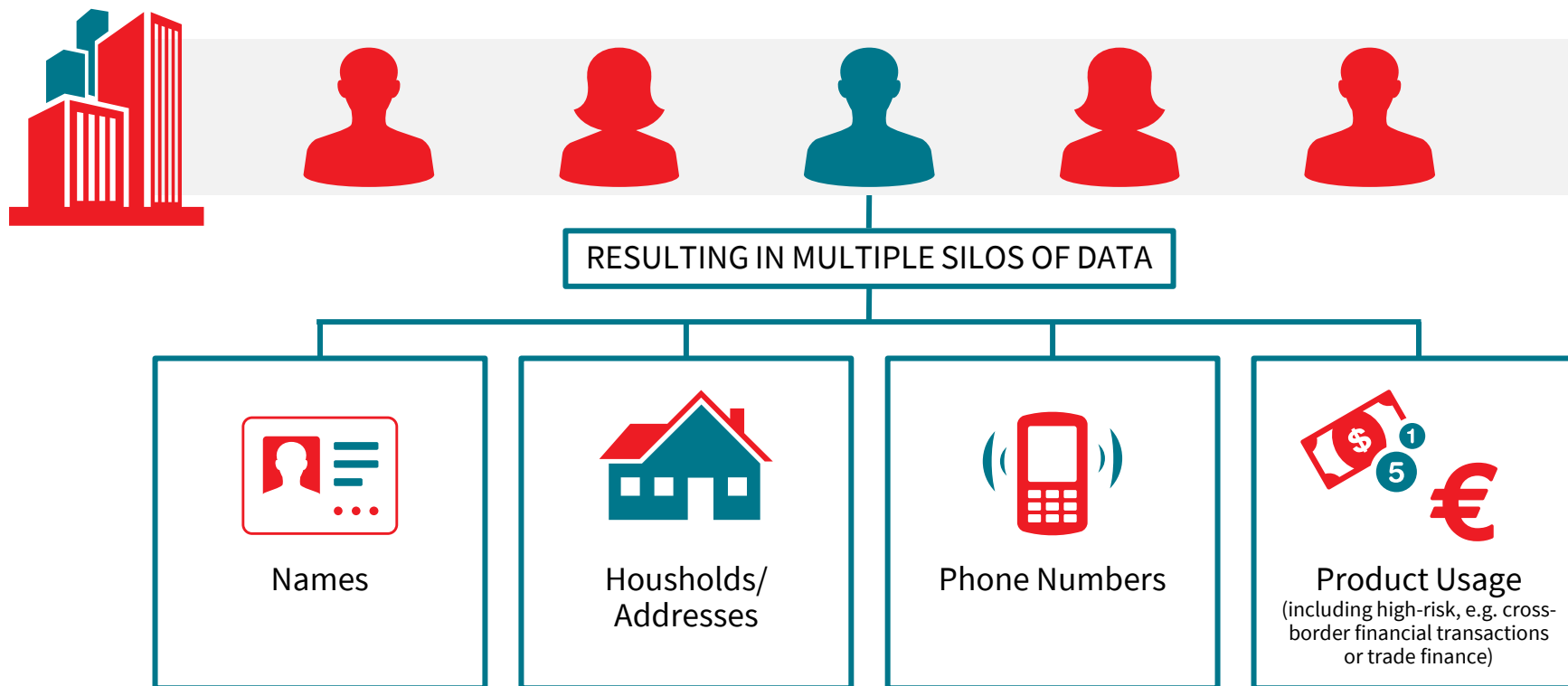
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Greater **ownership** over identity and data

Build their own independent PII-based identity graphs

Share their independent graphs in the Ecosystem

Build Strategic Partnerships and reboot their Identity Resolution capabilities

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YOUR ORGANIZATION IS CONNECTING WITH CUSTOMERS AND HOUSEHOLDS ACROSS MULTIPLE BUSINESS UNITS AND CHANNELS

RESULTING IN MULTIPLE SILOS OF DATA

Names

Housholds/ Addresses

Phone Numbers

Product Usage
(including high-risk, e.g. cross-border financial transactions or trade finance)

MULTIPLE, UNCONNECTED RELATIONSHIPS RESULT IN POOR PERSONALIZATION & DEGRADATION OF CUSTOMER EXPERIENCE

Each business unit or function may be managing its own customer relationships and associated data., resulting in a one-dimensional view of the customers and make it challenging to design multi touch experiences across channels

Consistent Experience
across all touch points

Can drive customer satisfaction, reduce churn and drive revenue
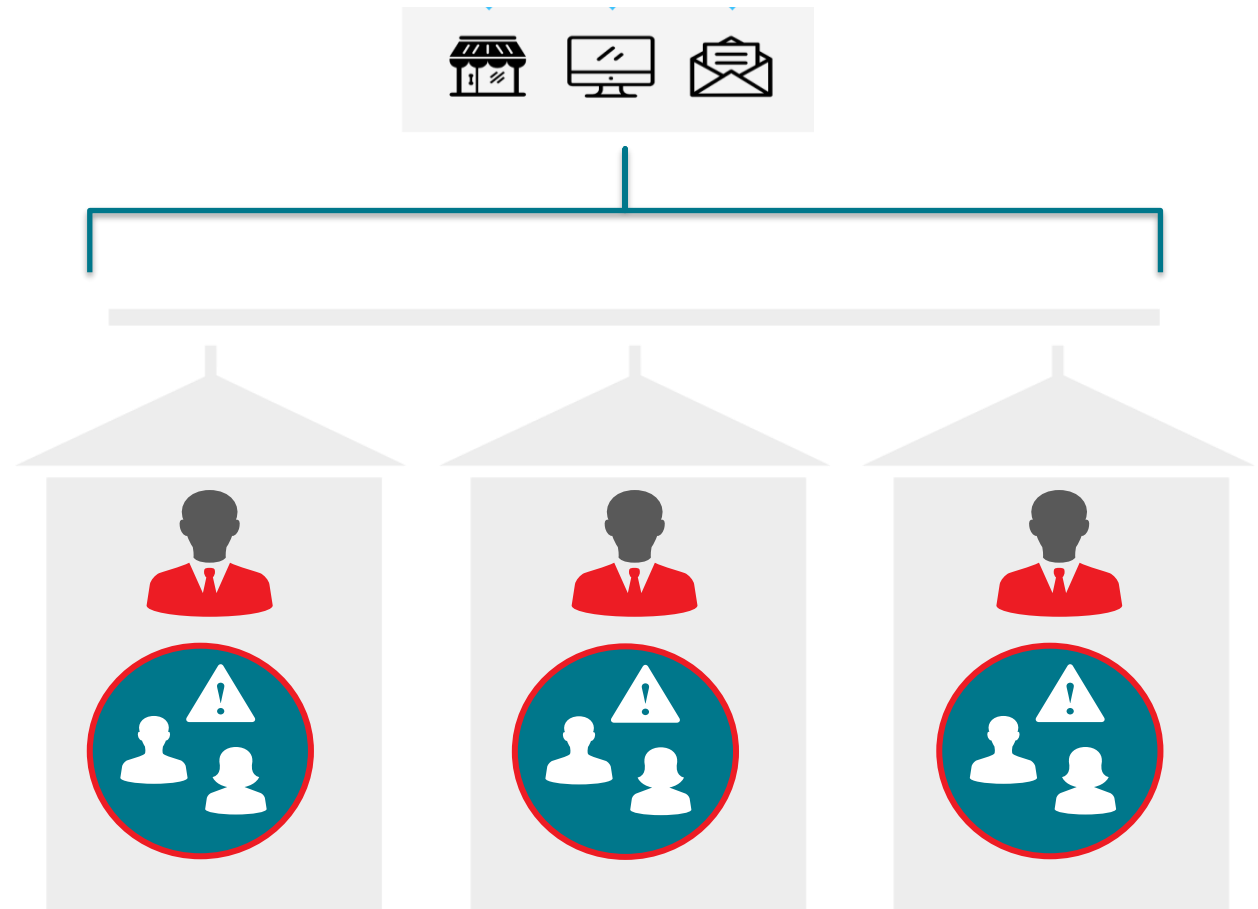
THE COSTS OF DISPARATE DATA ARE HIGH

CONSIDER THIS EXAMPLE:

You **acquire 10K customers** to onboard at a cost of $400 each* = **$4M**

Let's say about 5% of that cost - **$200K-** is related to customer data

If only **40%** of these customers maintain one **additional relationship** with your organization

That's **$80K in duplicate expenses**

NOT TO MENTION THE COSTS OF POOR CUSTOMER EXPERIENCE

REMEMBER THIS STAT?
36% say brands are at-risk to lose them because of poor personalization[1]

10K x 36% = **3,600** at-risk

X

$85 ARPU/MO[2]

$55 ARPU/MO[2]

_____

$140 ARPU/MO

= **$504k**

AT-RISK ARPU/MO

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OTHER WAYS POOR DATA QUALITY IMPACTS YOUR ORGANIZATION

Keeping multiple different customer portfolios is costly

- Unnecessary redundant processes and costs
- Inconsistent customer records

An unconsolidated view of a customer is risky

- Partial and disparate assessment of risk
- Disjointed operational processes

Unreliable customer records drive inefficiency

- Incomplete customer information typically results in multiple touchpoints
- Inaccurate or unavailable identifiers hamper the ability to automate processes

Always asking your customer for information results in customer friction and expense

- Most businesses rely on the customer to notify of changes on their data
- As more customer interaction becomes virtual, customers often do not proactively notify of changes or respond to requests for updated information
- Customer iterations create friction and expense

Poor data quality
costs businesses

$14.2M

every year

Gartner, "The State of Data Quality:
Current Practices and Evolving Trends"

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LEXISNEXIS® RISK SOLUTIONS APPROACH

We leverage four main components to provide end-to-end solutions that help customers assess and remediate issues with data quality

Vast Data Resources

We maintain over six petabytes of content comprising billions of public and proprietary records.

+

Big Data Technology

We designed our massively-scalable super-computing platform, HPCC Systems®, enabling us to process at very high speeds—over 270 million transactions per hour.

+

Linking and Analytics

We use our own unique identifier, LexID®, together with a proprietary linking technology. Our patented linking and clustering method is the engine behind many of our products.

+

Industry-Specific Expertise & Delivery

The people in our businesses have deep industry experience and expertise—we employ professionals that worked in the industries we serve, so they have walked in the shoes of our customers.
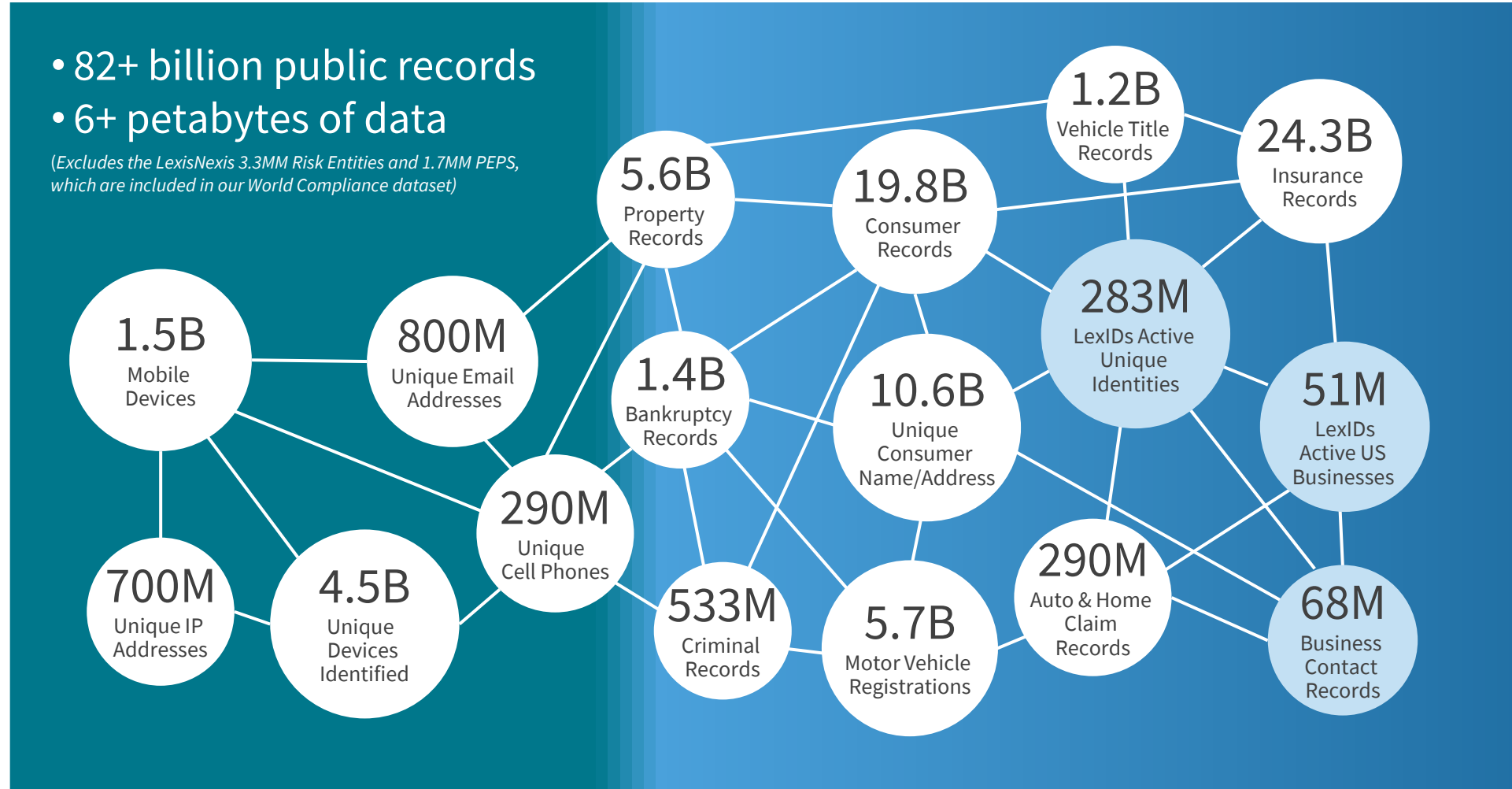
=

Customer Data Management

We connect the dots between billions of public records and transactions, to provide you a single customer view with reliable, up-to-date information.

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OUR VAST DATA SETS

- 82+ billion public records
- 6+ petabytes of data

(Excludes the LexisNexis 3.3MM Risk Entities and 1.7MM PEPS, which are included in our World Compliance dataset)

1.2B Vehicle Title Records

24.3B Insurance Records

5.6B Property Records

19.8B Consumer Records

283M LexIDs Active Unique Identities

1.5B Mobile Devices

800M Unique Email Addresses

1.4B Bankruptcy Records

10.6B Unique Consumer Name/Address

51M LexIDs Active US Businesses

290M Unique Cell Phones

700M Unique IP Addresses

4.5B Unique Devices Identified

533M Criminal Records

5.7B Motor Vehicle Registrations

290M Auto & Home Claim Records

68M Business Contact Records

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OUR APPROACH

Two primary components:

1 **Customer Level Aggregation**

- Accurately resolve entities
- Link records across data silos
- Enable holistic, single customer view

2 **Data Quality Management**

- Cleanse "messy" incorrect data
- Fill in missing data holes
- Obtain and maintain accurate and current data

More accurate customer data from a trusted source, with the ability to connect relations across the enterprise

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THE PROCESS BEGINS WITH OUR LEXID®

- A process that links together all records common to a single individual.

- Assigns a unique identifier (AKA LexID®) to those records.

- Not rules based. Calculates a weight (the specificity) for each value of each field, relative to all of the other values for that field found within the data.

- Includes fuzzy matching and other capabilities to help find the best matches.

- This linking technology powers many of our products and solutions through:
  - ✓ Linking
  - ✓ Data Enhancement
  - ✓ Search Processes
  - ✓ Analytics

LexID 123456
John Doe

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LexID®
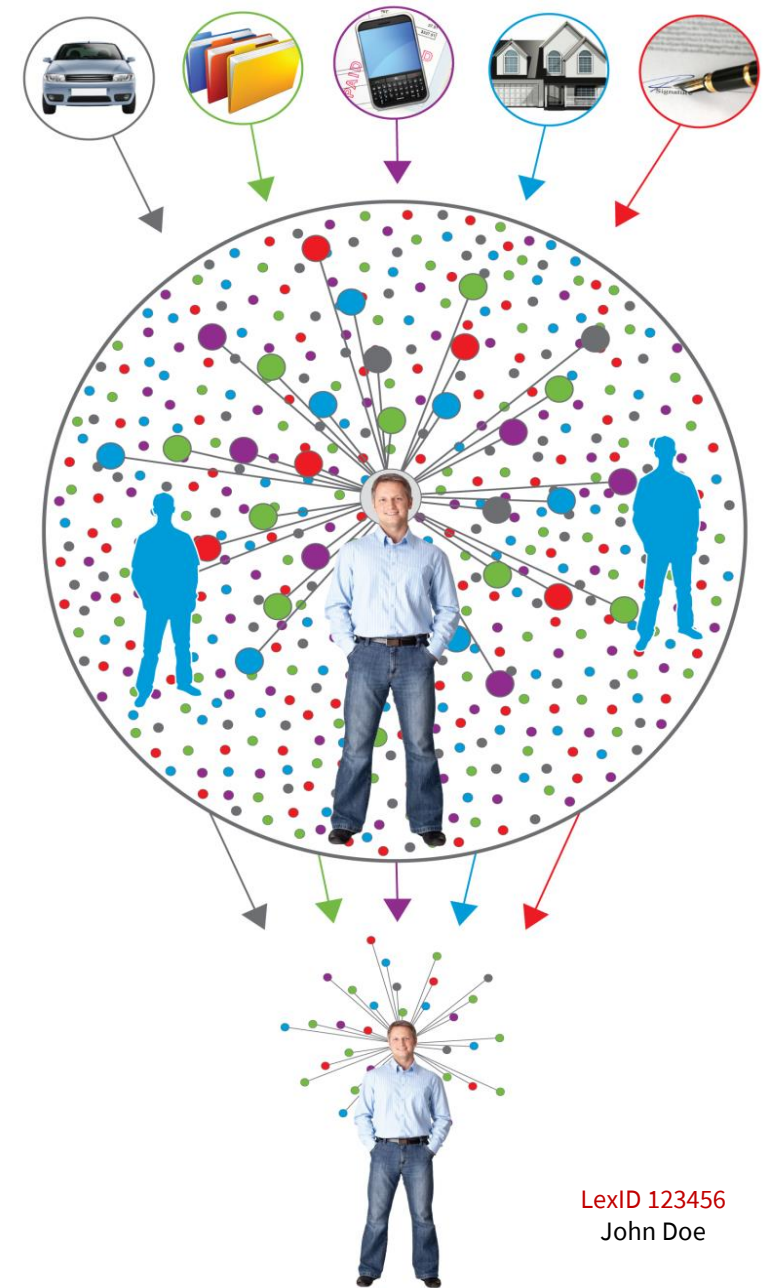
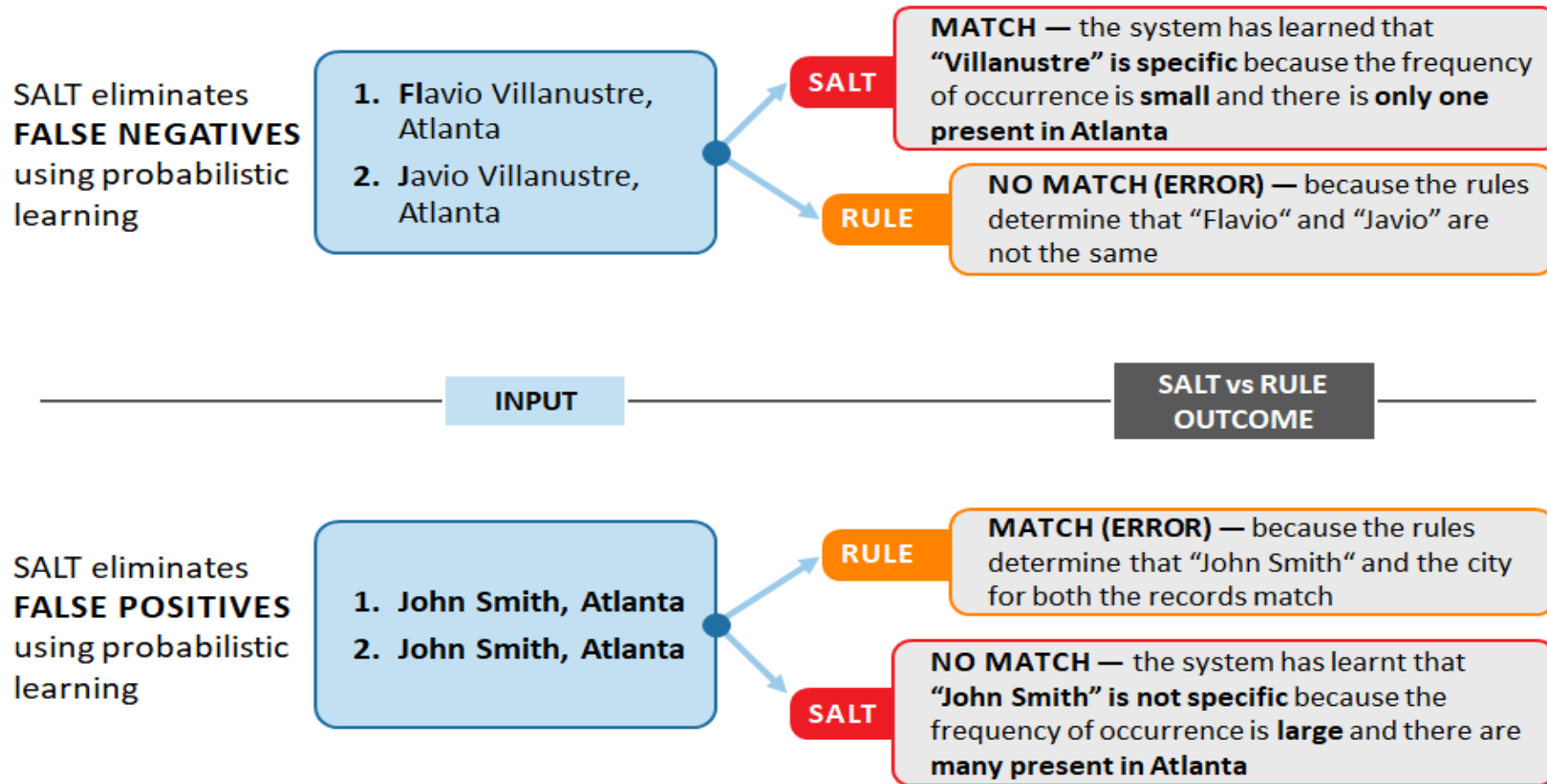## TELCO EXAMPLE ANALYSIS

Input Elements	Hit Rate
Full (First & Last Name, Address, City/State/Zip, DoB, Full SSN)	97.3%
Full, but w/no DoB	95.5%
Full, but w/last 4 SSN	94.2%
Full, but no SSN	92.6%
First & Last Name, Address/Zip, DoB	92.3%
First & Last Name, Address/Zip, Last 4 SSN	90.6%
First & Last Name, Zip, DoB	86.0%

OUR PATENTED SCALABLE AUTOMATED LINKING TECHNOLOGY (SALT)

CREATES AN ACCURATE VIEW OF A CONSUMER OR BUSINESS - RESOLVES RECORDS INTO ENTITIES

- Persistent link across multiple touchpoints & data silos

- Enables an aggregated, holistic single customer view

- Includes **core building blocks**: data integration process, data hygiene and standardization, weight specificity computation & record matching, and fuzzy matching & inter-field dependencies

- *Used throughout the industry to precisely key customer base - and often the prospect universe - to facilitate better data hygiene and matching to 1st-party, 2nd-party & 3rd-party data sources*

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SALT eliminates **FALSE NEGATIVES** using probabilistic learning

Input:
1. Flavio Villanustre, Atlanta
2. Javio Villanustre, Atlanta

SALT → **MATCH** — the system has learned that "Villanustre" is specific because the frequency of occurrence is **small** and there is **only one present in Atlanta**

RULE → **NO MATCH (ERROR)** — because the rules determine that "Flavio" and "Javio" are not the same

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INPUT　　　　**SALT vs RULE OUTCOME**

SALT eliminates **FALSE POSITIVES** using probabilistic learning

Input:
1. **John Smith, Atlanta**
2. **John Smith, Atlanta**

RULE → **MATCH (ERROR)** — because the rules determine that "John Smith" and the city for both the records match

SALT → **NO MATCH** — the system has learnt that "John Smith" **is not specific** because the frequency of occurrence is **large** and there are **many present in Atlanta**

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> **OUR PATENTED SCALABLE AUTOMATED LINKING TECHNOLOGY (SALT)**

SALT Entity Disambiguation Example

Record	First Name	Last Name	Address	City	State	Zip
1	MARCIA	MARSUPIAL	6035 JONES ST	ARVADA	CO	80004
2	KAREN	KANGAROO	5865 W OHIO AVE	LAKEWOOD	CO	80226

Do these two records belong to the same person?

Among the thousands of data sources, LexID found a series of related records

	First	M.I.	Last	St #	dir	St Name	suffix	city	st	zip
Matched record 1	MARCIA	K	MARSUPIAL	6035		JONES	ST	ARVADA	CO	80004
Moved	MARCIA	K	MARSUPIAL	9170	W	14TH	AVE	LAKEWOOD	CO	80226
Changed Last Name	MARCIA	K	KANGAROO	9170	W	14TH	AVE	LAKEWOOD	CO	80226
Used Middle Initial as First Name	K	MARCIA	KANGAROO	9170	W	14TH	AVE	LAKEWOOD	CO	80226
Moved & matched record 2	KAREN	MARCIA	KANGAROO	5865	W	OHIO	AVE	LAKEWOOD	CO	80226

> Thus these two seemingly unrelated records were matched accurately!

A single source of data is insufficient to overcome inaccuracies in the data
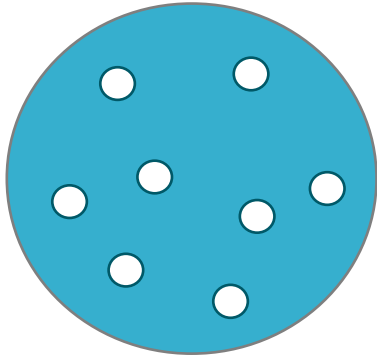
The holes are inaccuracies found in the data.

Obtaining data from **multiple data sources** via LN that has been triangulated from many and disparate sources provides a high degree of confidence in the data provided
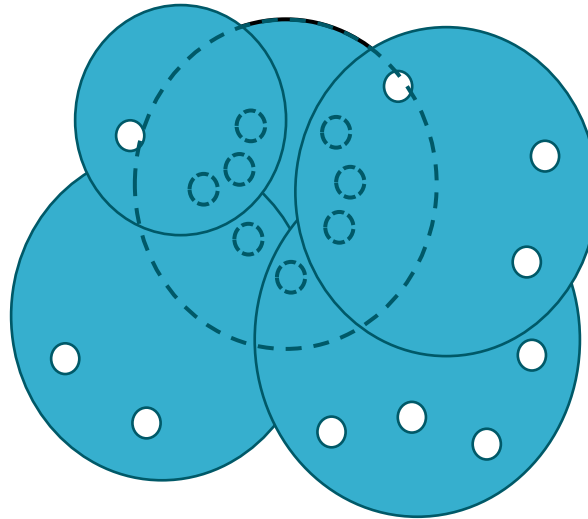
The holes in the core data have been eliminated.

Triangulation examples:
- *10.5 billion records contain DoB from a variety of different consumer sources*
- *10.3 billion unique Name and Address records*
- *12.8 billion records contain SSN numbers, 8.2 million contain ITIN's*

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THE ACCURATE 1ST PARTY 360° CUSTOMER DATA VIEW NEEDED TO DRIVE EFFICIENCIES - AND THE PERSONALIZED EXPERIENCE CUSTOMERS WANT

Customer Insights/ Analytics

Targeted Advertising

Personalized Content & Experiences

Cross-sell/ Upsell Campaigns
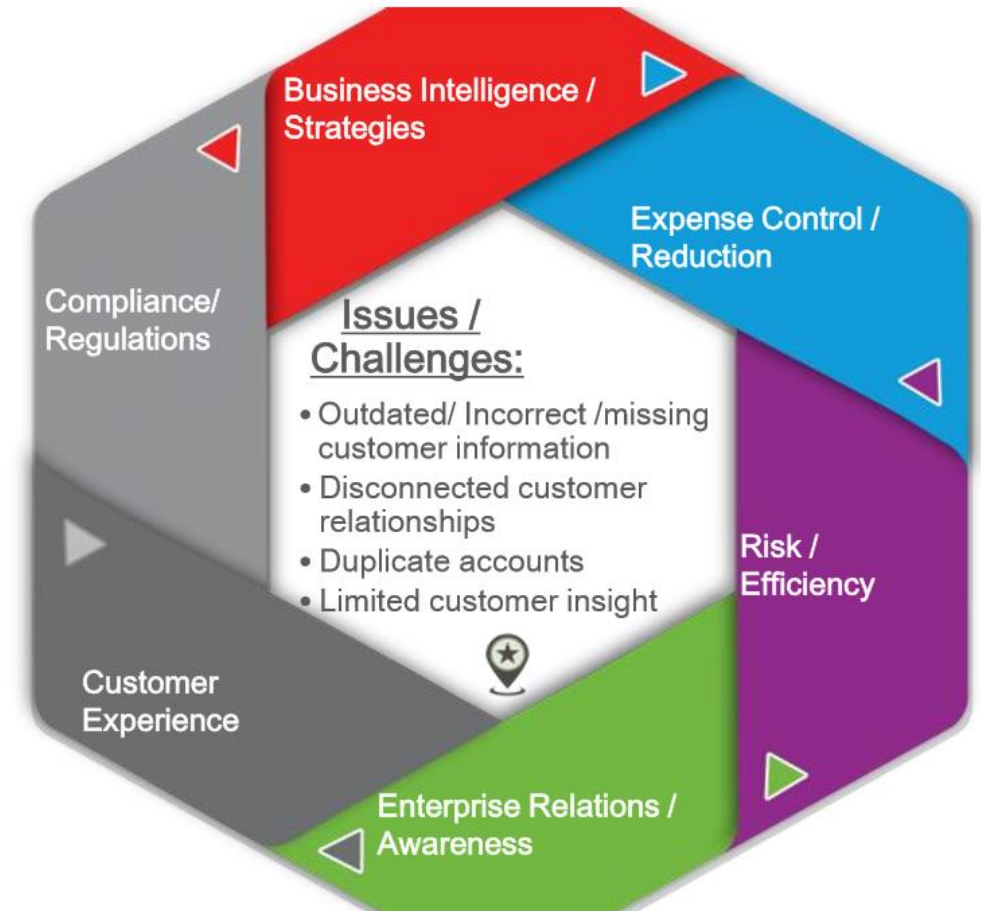
Trusted Customer Journeys

CLIENT DATA INITIATIVE

Challenge

- Inconsistent data quality and content strategy

- Disparate data silos across the business

- Flawed internal linking and unique identifier methodology

- Significant operational inefficiencies and risk

- Gaps in risk, marketing and compliance programs

- Limited internal resources dedicated to remediation

Opportunity

- Create a more "Unified View of the Client"

- Leverage best-in-class linking technology

- More effectively identify risk within current portfolio

- Enhance operational efficiencies

- Reduce compliance and fraud risk

- Overlay intelligent data, driving growth opportunities

- Reduce customer friction / improve customer experience

Business Intelligence / Strategies

Expense Control / Reduction

Compliance/ Regulations

Issues / Challenges:
- Outdated/ Incorrect /missing customer information
- Disconnected customer relationships
- Duplicate accounts
- Limited customer insight

Risk / Efficiency

Customer Experience

Enterprise Relations / Awareness

Client LexID Results:

- Record Set: **183,018,532** input records from over 20 source systems

- Entity Resolution: **99.44%** (with high match confidence)

- Results: **94,489,708** unique identities

Data Quality Assessment: 20M Random Sample

- SSN: 460K SSNs were invalid, 375K LN corrections

- DoB: 2.2M were missing, 2.1 LN provided, 1.2M LN corrections

- 3.7% were flagged as deceased

- Address: LexisNexis Risk Solutions had a newer/ variation of Address for 5M records

- 1.4M (7%) were non-physical (P.O. Box, CMRA);

- 393 prison addresses

Project Benefits

- $6M in financial benefits

- Enabled an aggregated holistic single customer view across multiple channels/products

- Identified potential fraudulent activity

- Increased accuracy of KYC & CDD initiatives

- Identified flawed data and provided remediated data

- Reduced costs associated with charge-offs by linking current applications to previously charged-off customers

LexID 123456
John Doe

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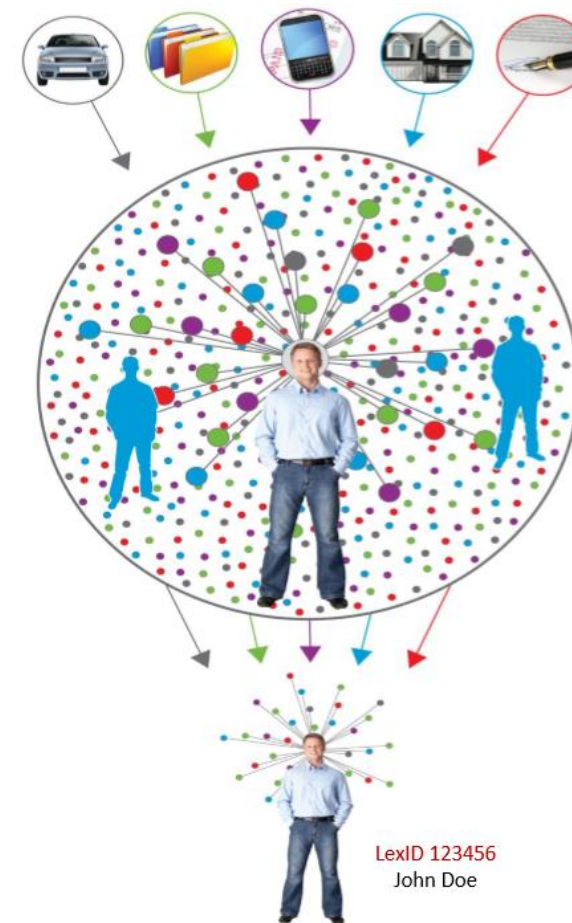
KEY TAKEAWAYS

- Identity Resolution and Linking are now foundational components of designing targeted and cross channel customer experiences

- Keying and Linking customer and prospect data sets with a unique identifier is critical

- Ensuring the same key is used across business units and functions can drive superior marketing experiences

- This can also enhance matching to 3rd party data sources and digital onboarding in the new cookie less world

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Hemant Deulkar
Hemant.Deulkar@lexisnexisrisk.com
404-210-6241
Follow LexisNexis Risk Solutions on **LinkedIn**, **Twitter** and **Facebook**

About LexisNexis Risk Solutions

LexisNexis® Risk Solutions harnesses the power of data and advanced analytics to provide insights that help businesses and governmental entities reduce risk and improve decisions to benefit people around the globe. We provide data and technology solutions for a wide range of industries including insurance, financial services, healthcare and government. Headquartered in metro Atlanta, Georgia, we have offices throughout the world and are part of RELX (LSE: REL/NYSE: RELX), a global provider of information-based analytics and decision tools for professional and business customers. For more information, please visit www.risk.lexisnexis.com and www.relx.com.

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