



**ORACLE®**

***Utility Transformations***

***Big Data, Bigger Opportunities: Plans and Preparedness for the Data Deluge***

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# Introduction

Smart grid deployments are creating exponentially more data for utilities and giving them access to information they've never had before. Accessing, analyzing, managing, and delivering this information – to optimize business operations and enhance customer relationships – is proving to be a daunting task.

Somewhere in this data deluge lies the path to a more efficient tomorrow, but:

- How will access to this new data change the way utilities drive their businesses?
- Will predictive analytics spur operational change?

The “Big Data, Bigger Opportunities” study surveyed executives at utilities with smart meter programs in place and gauged:

- Perceptions on the business impact of “big data”
- Preparedness to handle data growth
- Plans to extract optimal business value from this data to better target, engage with, and serve customers.



# Methodology

- Oracle conducted telephone and online interviews with 151 North American senior-level utility executives in April 2012\*

## Sample Demographics:

| Primary Country of Operation   |     |
|--|-----|
| U.S.    | 62% |
| Canada  | 38% |

**100%** of respondents have implemented at least one smart metering pilot program.

| Executive Role/Title                  |     |
|---------------------------------------|-----|
| Owner/Partner                         | 3%  |
| President/CEO/COO                     | 8%  |
| CFO/Controller/Treasurer              | 4%  |
| CIO/CTO                               | 3%  |
| EVP/SVP                               | 1%  |
| VP/Assistant VP/Principal             | 12% |
| General Manager/Managing Director     | 30% |
| Director of Customer Service          | 9%  |
| Director of Smart Grid/Smart Metering | 24% |
| Director of Distribution              | 6%  |

\*The sample size results in a margin of error of ±7.95% at a 95% confidence level

# Executive Summary

- **The Good News:**

- The average utility with at least one smart meter program in place has increased the frequency of its data collection by **180x** – collecting data once every four hours as opposed to just once a month\*
- Utilities with smart meter programs in place say they are **somewhat prepared** to manage the data deluge, rating themselves a 6.7 on a scale of 1 to 10\*\*
- Utilities are **collecting critical information**, such as outage (78%) and voltage data (73%), and many are using it to support business decisions, improve service reliability, and enhance customer satisfaction

- **The Opportunity:**

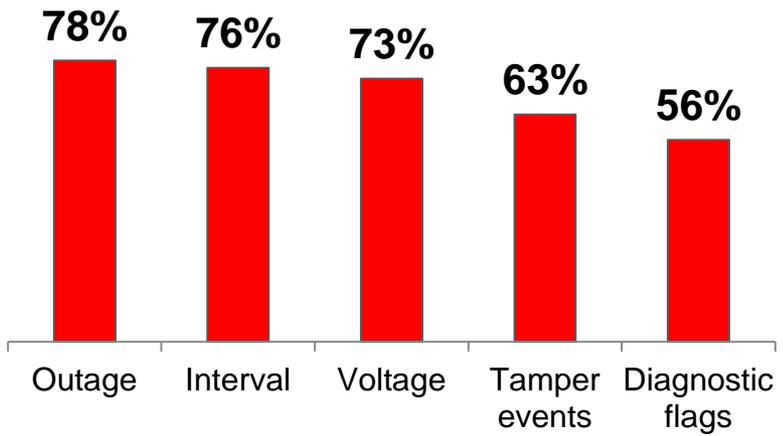
- Despite improvements, **45%** of utilities still struggle to report information to business managers as fast as they need it and **50%** miss opportunities to deliver useful information to customers
- Utilities see a need to **improve their ability** to translate information into actionable intelligence and leverage data for strategic decision-making. **64%** say it is one of their top three priorities
- **Meter Data Management (MDM)** systems may provide help: **70%** of those with an MDM system in place say they are prepared\*\*\* to successfully manage the data influx versus just **51%** of those without

# Data: Increasing by Volume and Variety

- Smart meters are bringing in a constant stream of outage, interval, and voltage information – but they're not the only sources contributing to utilities' data overflow

*The average utility with a smart meter program in place has increased the frequency of its data collection by **180x** – collecting data once every four hours, \* on average, as opposed to just once a month \*\**

Which of the following types of data is your utility collecting from smart meters?\*\*\*



In addition to smart meters, what other sources are contributing to data influx?\*\*\*

- 59%** Outage/distribution management systems
- 44%** Customer data/feedback
- 40%** Alternative energy sources
- 27%** Advanced sensors, controls, grid-healing elements

**Take Away:** Prepare for New Data Sources that Impact Operations & Service

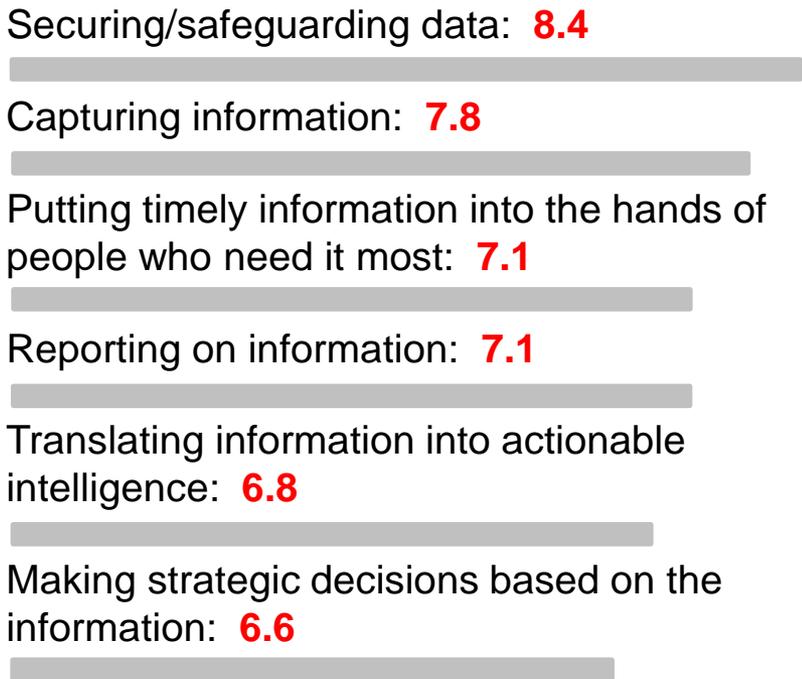
# Next Steps: Drive Decisions, Deliver Value

- Sixty-four percent of respondents note that drawing intelligence from smart grid/smart meter data is among their top three priorities, however, the average utility is just somewhat prepared to handle the data deluge – noting deficiencies in analytics



Utilities with smart meter programs say they are just ***somewhat prepared*** to manage the smart grid data influx, rating themselves a **6.7** on a scale of 1 to 10, where 1 is not at all prepared and 10 is completely prepared.

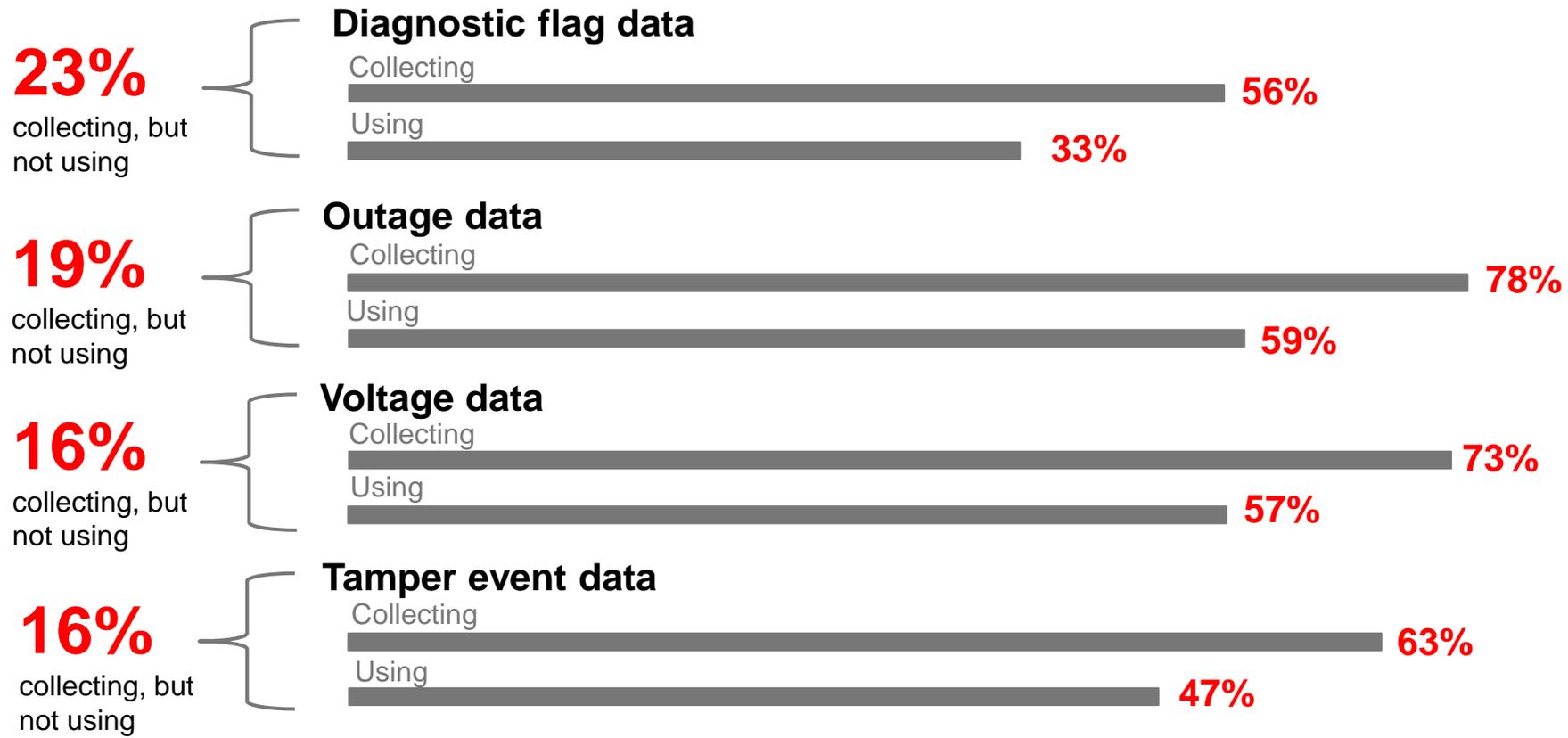
### Looking closer, utilities rank their data management abilities in:



**Take Away:** Realign Processes and Systems to Take Advantage of Data Insight

# Data Disconnect

- Some utilities also admit to collecting data, but not using it to support business processes and decision-making



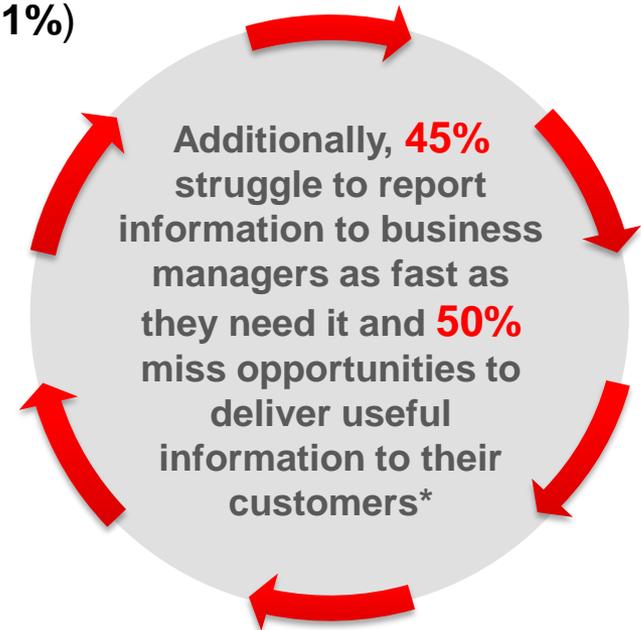
**Take Away:** Determine How to Best Use Newly Collected Data

# Talent, Speed Significant Challenges

- Utilities with smart meter programs say their biggest challenges are lack of talent to execute data analysis and limited processing speed

## What is holding utilities back?\*

- #1** Talent (few capable of executing the process) (**71%**)
- #2** Visualizing and comprehending (**69%**)
- #3** Analysis and processing speed (**65%**)
- #4** Search and retrieval (**62%**)
- #5** Capture (**54%**)
- #6** Access (**44%**)

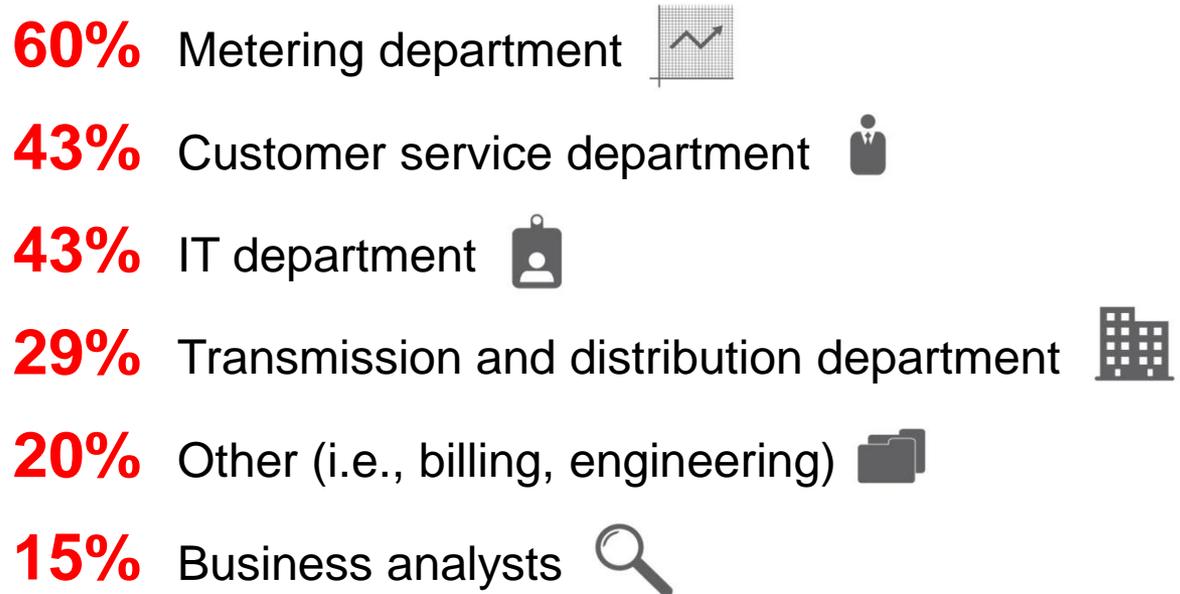


**Take Away:** Identify and Hire New Skills to Accelerate Intelligence Delivery

# Core Management Issues

- Utilities with smart meter programs also struggle to define which department owns the data

## Who owns or is responsible for smart meter and/or smart grid data?\*

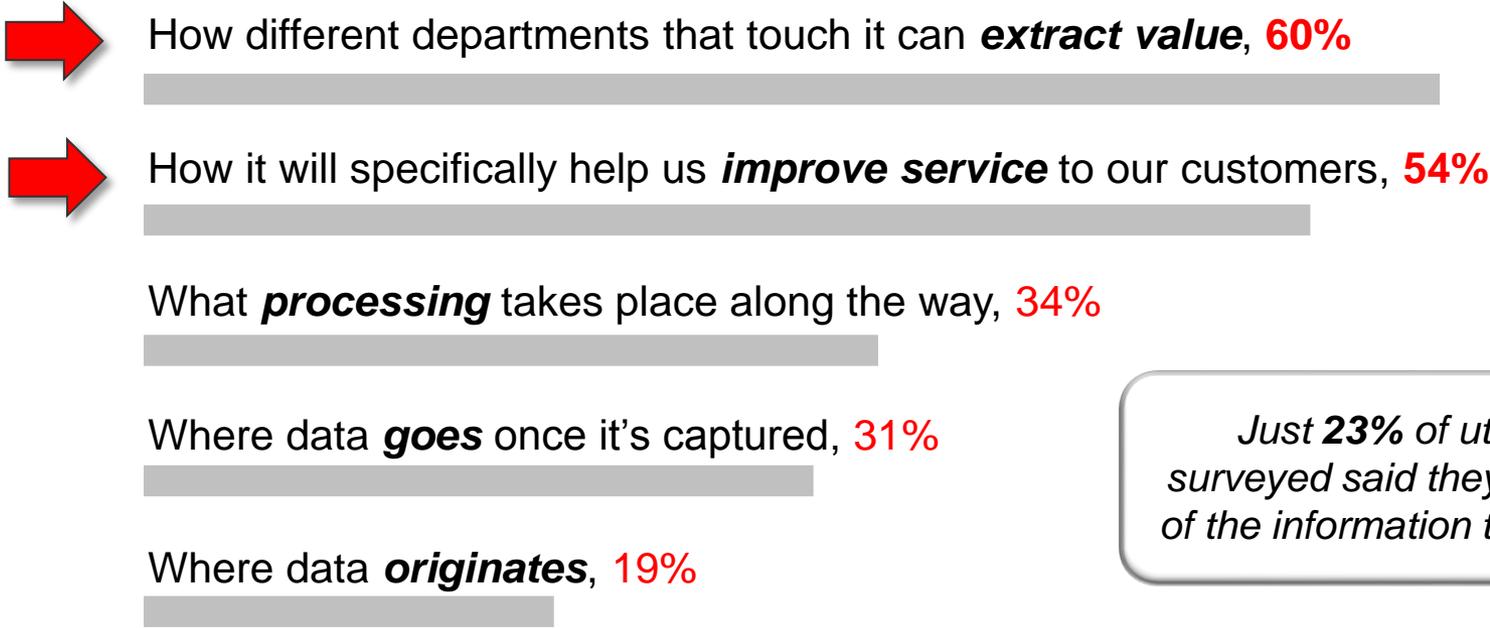


**Take Away:** Define and Roll out an Enterprise Information Strategy

# Necessities for the Road Ahead

- To move forward, utilities need a better understanding of how they can extract value from data and how to use that information to better serve their customers

**Which of the following does your utility need more information about to create a long-term smart grid information management strategy?\***



*Just 23% of utilities surveyed said they have all of the information they need*

**Take Away:** Establish Clear Roles; Enable Collaboration and Sharing

\*Respondents asked to select all that apply

# Leveraging Data to Improve Service Delivery

- Customers can look forward to a more transparent tomorrow with smart grid data

Utilities with a smart meter program in place plan to spend an average of **\$178** per customer over the next five years to move smart metering/smart grid forward.\*

## In the next five years, how do you plan to leverage smart grid data to improve customer service? \*\*

- #1** Provide customers with information about their usage patterns (76%)
- #2** Implement and/or improve conservation and efficiency programs (68%)
- #3** Implement demand response programs (65%)
- #4** Compare historical data to identify trends and forecast demand (64%)
- #5** Improve compatibility with regulatory requirements (56%)
- #6** Alert customers of usage spikes (53%)
- #7** Use predictive analytics to minimize outages (52%)
- #8** Target customers for new programs (50%)

**Take Away:** Prepare for the Change – Using Data Across the Enterprise

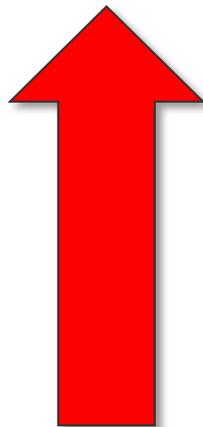
# Meter Data Management Can Help

- Utilities with meter data management (MDM) systems in place are significantly more prepared to handle the data influx (**100%** of respondents have implemented at least one smart metering pilot program)



**46%** of utilities surveyed have an MDM system in place

Those with an MDM system are **more likely to be prepared** to manage the data influx than those without – **70% to 51%\***



**How has the adoption of an MDM system changed the way your utility makes sense of its smart meter data?**

- ✓ “Our system is much more controlled. We get **rapid reports** when meters are not reading.” – Canadian Director of Smart Grid Metering
- ✓ “Our MDM gives us more **information at our fingertips**, rather than going into the field to collect it.” – U.S. Director of Distribution
- ✓ “Our MDM goes through the mountains of information and **only takes the information we want** based on the rules we set in place.” – Canadian President/CEO/COO
- ✓ “It allows us to **relate usage to our customers**.” – U.S. Director of Smart Grid Metering

**Take Away:** Leverage MDM to Increase Utility Effectiveness

# What's Next?

- Utilities see smart metering data as a change enabler when it comes to customer information, reliability, and money management



How will smart grid and smart metering data enable your utility to optimize business operations?

- ✓ “It will allow us to be more efficient, **spend our dollars more wisely**, and make our dollars go further.” – U.S. Director of Smart Grid Metering
- ✓ “Customers will have **more hands-on information** about their usage.” – Canadian VP
- ✓ “**Improve reliability** and customer relations, especially on the demand side and conservation side.” – Canadian VP
- ✓ “The smart grid should help us **get information in the right hands** to solve problems for both the customer and the utility.” – U.S. CEO
- ✓ “We will use smart grid data to **educate and empower customers** to engage in activities, enable automation of efficiency with customers, and to implement demand response programs.” – Canadian CIO/CTO

**Take Away:** Examine Smart Grid Value Prop; Use Data to Enhance Operations

# Our Take...

- **Use Analytics for Operational Efficiencies:** With data coming in from every corner of the business, utilities must not only make data collection a priority, but invest in the systems and people needed to analyze a growing number of new data sources collected from smart meters and other smart grid components – to drive operational improvements
- **Tackle Ownership Issues:** Data ownership resides in various organization departments. Smart meter/interval data should be considered enterprise-level data, so utilities must ensure they have an enterprise data strategy in place
- **Consider MDM:** Utilities with meter data management systems are better prepared to handle the data deluge. Consider MDM as a means to get the most out of smart meter data
- **Remember the Customer:** In addition to streamlining business operations, successful data management should greatly improve the customer experience – both through improved outage management/service reliability and stronger customer communication around smart grid changes and benefits



# Thank You

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