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# The Speed Of Digital Business Demands Streaming Analytics Platforms — Now

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FORRESTER OPPORTUNITY SNAPSHOT: A CUSTOM STUDY COMMISSIONED BY CLUDERA | OCTOBER 2019

## Your Streaming Data Has An Expiration Date: Today

Hindsight may be 20/20, but in today's rapidly changing business world, firms basing decisions only on the past will lose to firms that can think and act right now. Firms that can analyze and act on data in motion will better serve customers, adapt business strategy, and optimize operations to gain competitive advantage. Streaming analytics empowers firms to derive insights from data in motion. That means insights now, to act now. Many enterprises can capture and store data in motion, but they often lack streaming analytics technology that is uniquely capable of analyzing that data in real time.

In August 2019, Cloudera commissioned Forrester Consulting to conduct a study with 157 US business and technology decision makers responsible for streaming analytics about their firms' data-in-motion strategies, challenges, and opportunities.

## Key Findings



Streaming data volumes are exploding, creating new opportunities to improve CX and business processes, but presenting data collection, analysis, and activation challenges.



While a modern analytics strategy comprises both traditional and streaming analytics, most firms today are underinvested in streaming analytics, preventing them from acting upon data in motion.



Most firms would prefer to use an open source solution with commercial support and integration to take advantage of open source's innovation with the value added by a technology vendor.

## Current Stream Processing Efforts Fail To Keep Pace With The Business

Firms understand that acting on data insights in real time is critical to making the best decisions about customer experience and operations. Solving a problem now is better than apologizing later or conducting postmortem meetings ad infinitum. Unfortunately, many firms don't have or only dabble in streaming analytics — the fundamental technology needed to analyze data in motion.

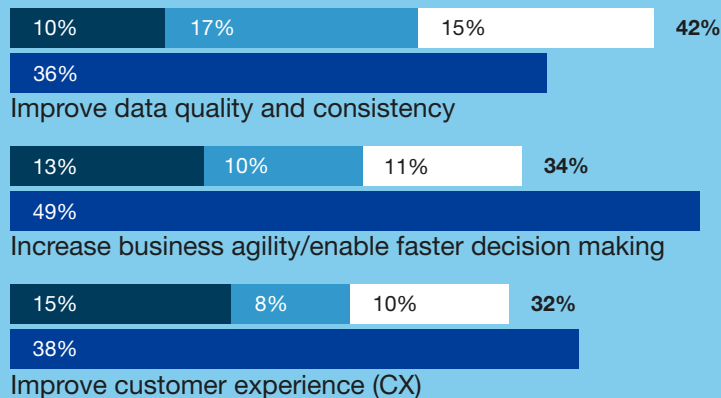
Fortunately, streaming analytics is moving out of the domain of IT and into the business where it can make a real difference to business outcomes and competitiveness. However, current practices are not always effective at translating streaming analytics to business goals: 38% of respondents say current streaming analytics is moderately or less effective at improving customer experience, and almost half say the same about increasing business agility.

### “What are the top three desired outcomes of your company's current streaming data and analytics efforts?”

- Rank 1
- Rank 2
- Rank 3

### “How effective are your company's current streaming data and analytics practices at achieving your desired business outcomes?”

- Moderately effective or worse



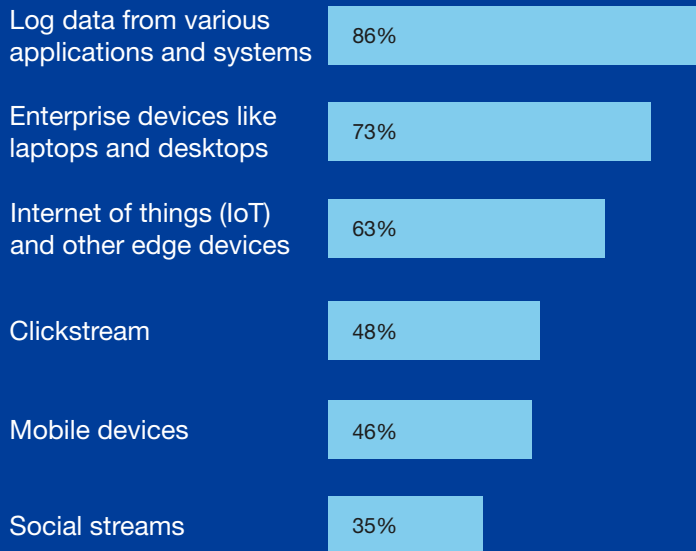
## Streaming Data Continues To Grow, Both In Volume And Value

Data is the lifeblood of the modern enterprise, streaming in from hundreds, and sometimes thousands, of applications, devices, and systems. Data about customers, operations, and the market that firms can analyze in real time is multiplying, and data volumes are increasing exponentially.

Almost half of the respondents we surveyed say they have four or more sources of streaming data for their companies. These include traditional data sources like applications and devices, but also internet-of-things (IoT) and edge devices (63%), clickstream data (48%), mobile (46%), and social streams (35%). Increasing data volume creates greater opportunity for improving CX, transforming the business, and driving competitive differentiation, but also makes it more difficult to manage, analyze, and act on data in real time.

### “What are the sources of streaming data for your company?”

(Select all that apply)



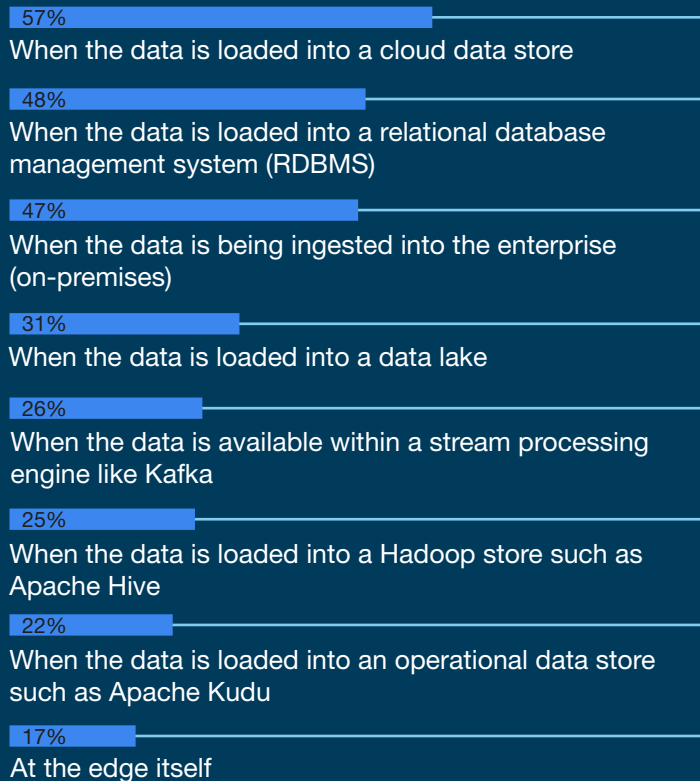
**Almost half (45%) of respondents say there are four or more sources of streaming data for their company.**

## Cloud Is King For Most Streaming Data Analysis

Companies recognize the value of analyzing data in motion, but too often wait to analyze it when it is at rest in a cloud data store, data warehouse, data lake, or similar data repository. Many companies today are still stuck in the traditional business intelligence (BI) postmortem analysis of data. Our survey shows that only 26% of respondents analyze data in motion originating in applications, and just 17% analyze data at IoT edge devices. Well-intentioned enterprise streaming data efforts frequently conflate ingestion with analysis. Ingestion is necessary but insufficient. Streaming data must be analyzed in motion to gain immediate insights.

### “At what point during the ingestion of streaming data do you analyze it for streaming analytics?”

(Select all that apply)



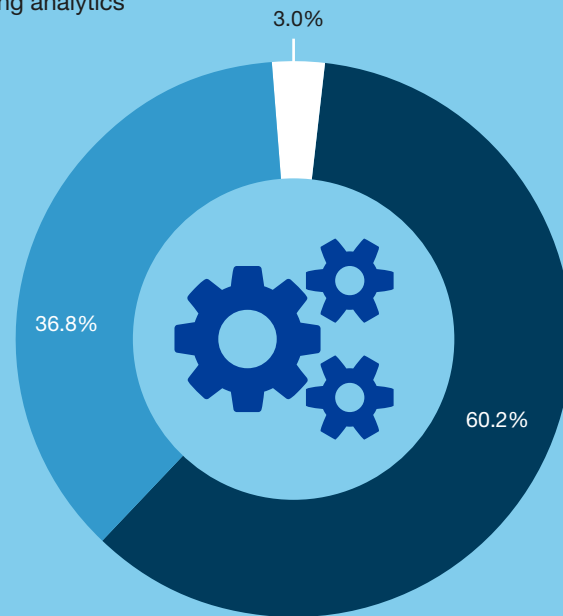
## Analytics Strategies Rooted In The Past Must Expand To Include Streaming Analytics

Traditional analytics (also known as descriptive analytics) are historical. They provide insights about what happened and perhaps even why. This continues to be a critical capability for enterprises because it allows them to course-correct operations and refine strategy. However, equally important but lacking in most firms is streaming analytics. Streaming analytics creates insights from what is happening right now. Streaming analytics can automatically surface insights that can be used within applications and/or by human decision makers to act while the iron is still hot.

Firms that want to keep pace with their customers, the market, and their competitors must increase their investments in streaming analytics to act on data when it is most valuable — right now.

**“To your best estimate, what percentage of your company’s current analytics and BI efforts are executed as traditional/historical analytics versus streaming analytics?” (average)**

- Traditional/historical analytics
- Streaming analytics
- Other



## Data Management Challenges And Lack Of Expertise Can Sink Streaming Analytics

Valuable streaming insights depend on clean, high-quality data to analyze for patterns and trends. But firms we surveyed say that high volumes of data and current solutions for data ingesting and preparation are hurting their streaming analytics efforts. Successful streaming analytics programs rely on solutions that can help manage and prepare data quickly so data can be analyzed and insights implemented when most valuable.

In addition to data quality challenges, firms are also challenged by a lack of streaming analytics expertise and tools. Firms must prioritize these two key investments to reap the benefits of streaming data insights.

**“What is currently preventing your company from using more streaming or real-time analytics, or has in the past?”** (Select all that apply)



32%

Our data preparation processes take too long



30%

We have too much data and cannot ingest it in a timely manner



30%

Our business users need to be in control of when/how they analyze data



27%

We don't have the right expertise to implement this type of analytics



21%

We don't have access to the tools needed for streaming analytics



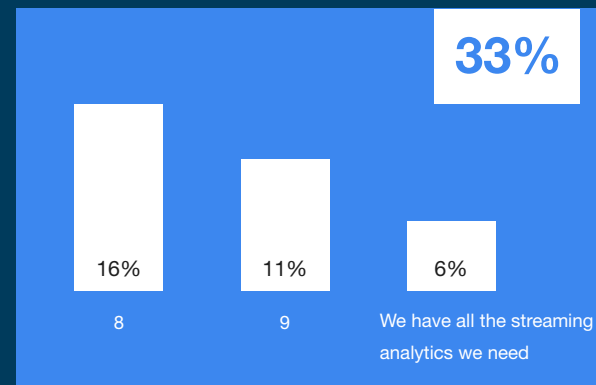
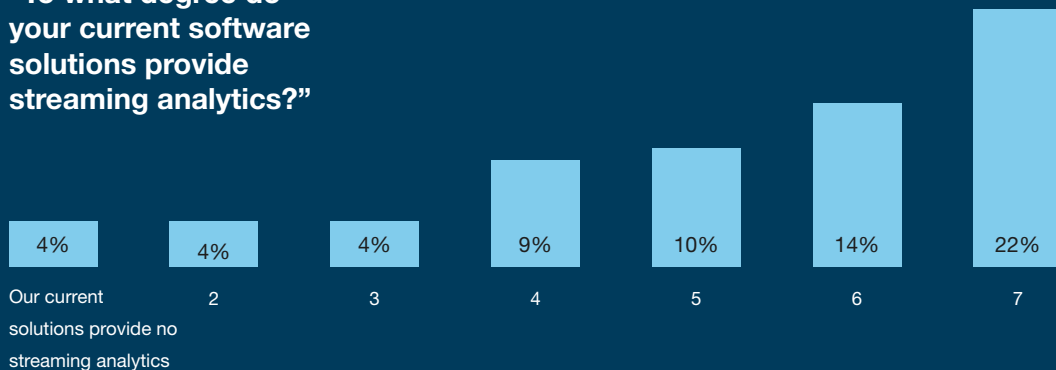
18%

Our data is poorly managed and governed and not suitable for streaming analytics use cases

## Current Software Solutions Leave Significant Streaming Analytics Gaps

Most software solutions today provide historical/traditional analytics to firms in the form of performance dashboards and charts to measure past performance. However, far fewer provide effective streaming analytics solutions to analyze data in real time. In fact, on a scale of 1 to 10 regarding the degree to which their current software solutions provide streaming analytics, just one-third of survey respondents rated their solutions as 8 or above, and almost half (45%) rated their solutions as a 6 or below. To meet the streaming analytics demands of the modern enterprise, firms must invest in platforms designed to ingest, prepare, and analyze data in motion.

“To what degree do your current software solutions provide streaming analytics?”





## Streaming Analytics Platforms Enable Firms To Operate At The Speed Of Digital

We live in a real-time world, and so too must enterprises analyze and act in real time. Streaming analytics platforms are designed to do just that by detecting patterns, surfacing trends, identifying events, and garnering insights from data in motion from multiple sources of data.

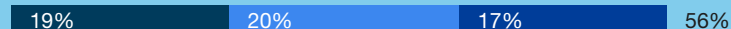
The value of streaming analytics platforms grows as data volumes increase. While 76% of respondents say that streaming platforms are important to support their current data needs (33% critical), that number grows to 89% to support future data needs (53% critical).

### “What are the primary features you would want to see in a streaming analytics platform?”

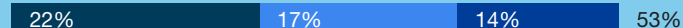
(Rank your top three where 1 = most important)

● Rank 1 ● Rank 2 ● Rank 3

Ability to detect patterns and trends across real-time streams



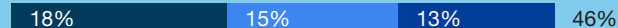
Integration with security, governance, single sign-on, and other enterprise services to protect and govern the data



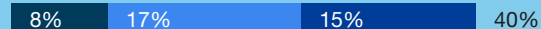
Ability to do complex event processing across real-time streams



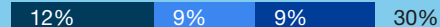
The ability to choose between different types of streaming or real-time analytics



Integration with third-party data visualization and BI vendor tools



Ability to have developer-friendly APIs as well as an analyst-friendly interface



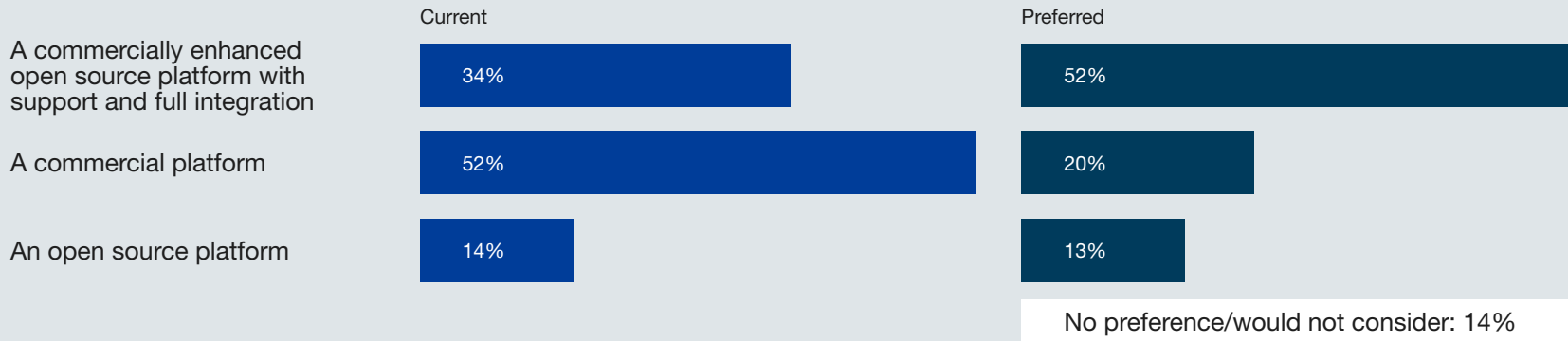
An open source solution enhanced with support and product integration



## Open Source Streaming Solutions With Full Commercial Support Offer Best Of Both Worlds

Today, most firms rely on commercial streaming analytics solutions for analyzing data in motion. However, a majority would prefer to use an open source solution with commercial support and integration. Enterprises are attracted to open source because of innovation that occurs broadly within the community. However, they also want value-added tools and the support that comes from a technology vendor.

“Which of the following best describes your current and/or preferred streaming analytics platform?” (Current and preferred)



## Become A Real-Time Enterprise With Streaming Analytics

Insights derived from data and analytics have expiration dates, and like crops in the field, they need to be harvested before they rot. If enterprises don't act on insights within a given time frame, they are no longer actionable; in other words, the opportunity to change the course of business outcomes will pass. Fortunately, enterprises are starting to understand this.

## Enable AI With Streaming Intelligence

Streaming analytics is an important enterprise capability, but it becomes exponentially more important as a prerequisite for machine learning (ML) because ML models act on real-time patterns, events, and insights. Enterprises that implement streaming analytics platforms will gain immediate benefits with real-time insights and also be nicely set up for real-time AI applications.

### Project Director:

Andrew Magarie, Principal Market Impact Consultant

### Contributing Research:

Forrester's Application Development and Delivery research group

## Methodology

This Opportunity Snapshot was commissioned by Cloudera. To create this profile, Forrester Consulting supplemented this research with custom survey questions asked of 157 manager-level and above decision makers with responsibility for streaming analytics at US enterprises with \$200M or more in annual revenue. The custom survey began and was completed in September 2019.

### ABOUT FORRESTER CONSULTING

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## Demographics

### ANNUAL REVENUE

More than \$10B: 15%
\$1B to \$10B: 36%
\$500M to \$999M: 36%
\$200M to \$499M: 12%

### INDUSTRY (TOP 4)

Tech/tech services: 13%
Manufacturing: 10%
Fin serv/insurance: 10%
Retail: 8%

### TITLE

Vice president: 19%
Director: 40%
Manager: 41%

### DEPARTMENT

IT: 73%
Analytics/reporting: 13%
Business intelligence: 9%
Data science: 5%

Note: Percentages may not total 100 because of rounding.



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