

October 2013

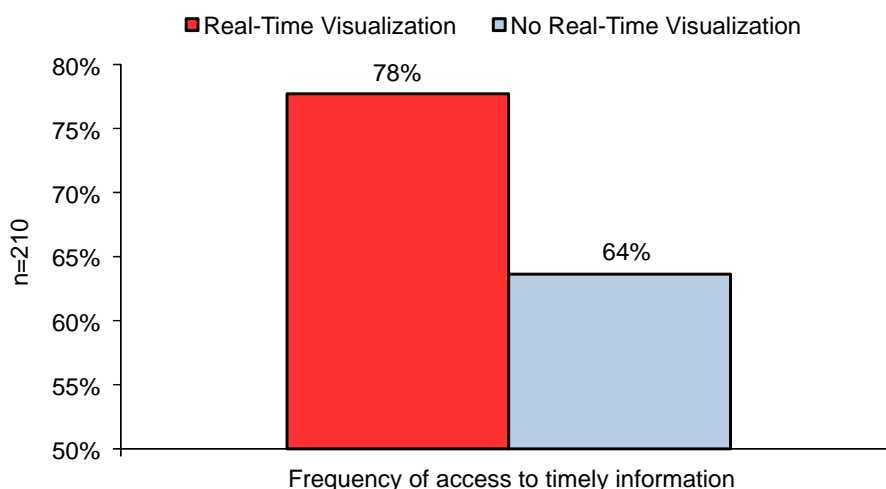
## Real-Time Data Visualization: Do it Live!

Sports, music, theater, and data visualization all have one thing in common. They're better live. However, live data feeds alone can be unwieldy and overwhelming. Decision makers need powerful tools to process information into a digestible and engaging format. Aberdeen Group's [2013 Operational Intelligence survey](#) found 54 organizations currently using visualizations fueled by real-time data. These organizations achieve live visuals through a combination of real-time data measurement, data integration, and visual discovery tools. This report will examine the decision-making benefits of real-time visualization and explore the technologies that help live data drive superior performance.

### Get Insights Fast, Make Decisions Faster

Real-time visualization shows decision makers the up-to-the-minute information they need to make time-sensitive decisions (Figure 1). Organizations with real-time visualization are able to obtain critical information within the decision window 78% of the time, or 22% more often than organizations without real-time visualization. Decision makers can engage their real-time data to get pertinent information in time to apply it to their thought process before a deadline. This means that these organizations can base over one-fifth more decisions on facts, rather than on instinct and intuition.

**Figure 1: The Decision Window**



Source: Aberdeen Group, August 2013

### Analyst Insight

Aberdeen's Insights provide the analyst's perspective on the research as drawn from an aggregated view of research surveys, interviews, and data analysis.

### Survey Definition

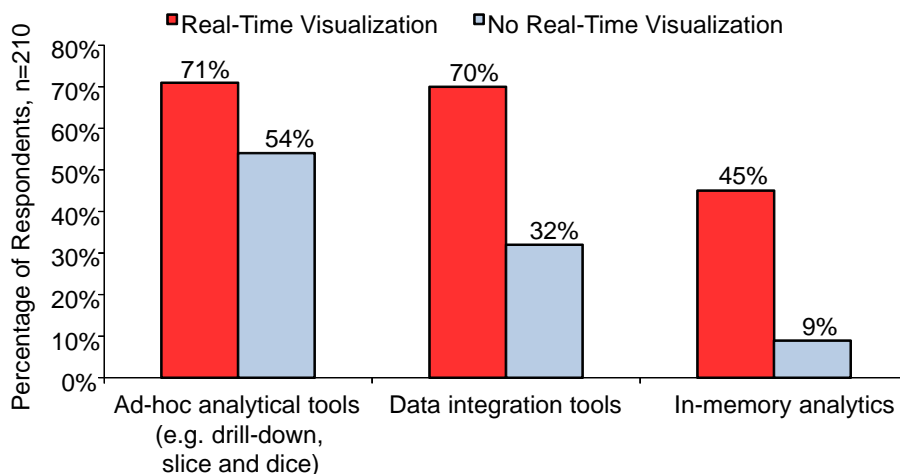
Data was collected from 210 survey respondents using operational intelligence in August 2013. Only organizations that used operational data to support tactical day-to-day decision making were included. Organizations were considered to have real-time visualization if they had a combination of real-time data measurement, real-time data integration, and visual discovery tools.

Aberdeen’s June 2013 report, *Real-Time Operational Intelligence: There’s No Time Like the Present*, also noted real-time data’s benefits for agile decision making and striking while the iron is hot. Seeing live, actionable information in a visual format within the decision window lets organizations resolutely take the optimal course. Visual data discovery also gets analytics into the hands of more employees and promotes the self-sufficient use of BI tools (see sidebar).

## Tools of the Trade

Organizations with real-time visualization maximize the value of their analytics with several technology enablers (Figure 2). Seventy-one percent (71%) of organizations with real-time visualization have ad-hoc analytical tools that allow them to drill down into their data and manipulate their live visualizations. The ability to engage a visualization and dive deeper into the fast-changing data behind it can reveal patterns and anomalies that guide decision making. Sales and marketing managers equipped with real-time visuals can proactively address opportunities as they emerge. IT personnel can monitor network performance and troubleshoot issues as they occur. Any job role can engage with the data, ask questions, and find answers to customized questions.

**Figure 2: Maximizing the Potential of Visualization**



Source: Aberdeen Group, August 2013

Seventy percent (70%) of organizations with real-time visualization have data integration tools, making them over twice as likely as all others to have the ability to amalgamate data from multiple sources. These tools also allow users to combine live feeds with historical data sets in their visualizations. While looking at real-time visualizations, decision makers can integrate what they see with other data sets to recognize outliers and differentiate emerging trends from mere exceptions.

### More, Self-Sufficient Users

According to Aberdeen’s August 2013 report *Visualization: Set Your Analytics Users Free*, organizations that use visual data discovery are able to get analytics into the hands of 48% more of their employees, compared to companies that just depend on other forms of business intelligence (BI).

At organizations that use visual discovery tools, 48% of BI users are able to find the information they need without the help of IT staff, all or most of the time. Where visual data discovery is not used, only 23% of BI users operate with this degree of independence.

### Under Pressure

Organizations using real-time visualization reported the top pressures that drove them to focus on real-time data:

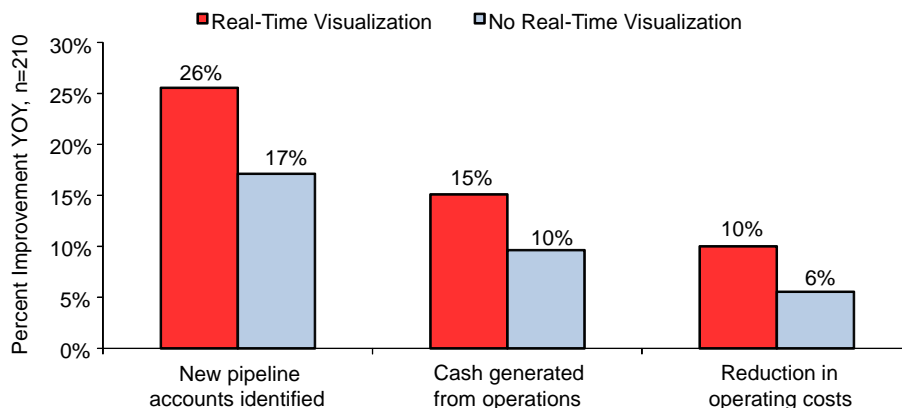
- ✓ Operational inefficiencies: cited by 43% of respondents
- ✓ Shortening window of time for making critical decisions: 37%
- ✓ Too many business decisions are based on inaccurate / incomplete data: 26%
- ✓ Customers demand timely and accurate responses to queries: 22%

Finally, real-time visualizers are five times as likely as all other organizations to use in-memory analytics. In-memory visual analytics can truly be real-time, as they are never delayed by pulling data from sluggish disk storage. The agility of in-memory analytics allows decision makers to work with visualizations drawn from massive amounts of fast-changing data. These fluid visuals offer actionable insights for all lines of business.

### Do it Live, Get it Done

Organizations utilizing real-time data visualization have outpaced all others in several key metrics (Figure 4). Real-time visualizers achieved 26% growth in new pipeline accounts identified, a 53% greater increase than organizations without real-time visualization. By visualizing real-time data on sales and marketing interactions, these organizations are identifying more prospects for the top of the funnel. Decision makers can instantly identify and support new opportunities as they begin to develop. Business opportunities grow when names and numbers on a page become engaging and dynamic visualizations.

**Figure 3: Performance Benefits of Real-Time Visualization**



Source: Aberdeen Group, August 2013

Using live visuals to immediately identify problems and inefficiencies maximizes output. Real-time visualizers achieved a 15% increase in cash generated from operations over the past 12 months. Managers can engage visuals representing multiple facets of operational performance in real-time to nip all issues in the bud and optimize productivity. For example, a real-time visualization of machine performance could reveal a machine performing under capacity, and integrated historical data could show how that particular machine consistently falters at the end of every production cycle. The machine could then be pulled for repair and the operation could adjust to maximize production.

Organizations using real-time visualization achieved a 67% greater operational cost reduction than all other organizations. By visualizing daily activities in real-time, operational managers can spot costly delays and

#### Additional Visualization Benefits

Aberdeen's May 2013 report [Seeing the Big Picture: Visualization for Big Data](#) explored several performance improvements achieved by organizations using visualization tools.

- ✓ Time-to-information: 21% improvement
- ✓ Accuracy of business decisions: 22% improvement
- ✓ Time-to-decision: 20% improvement
- ✓ Visibility / searchability of business data: 27% improvement
- ✓ Quality of analysis: 22% improvement

inefficiencies as they occur. Visual discovery tools can also reveal where swelling costs are coming from and those sources can be quickly addressed. Visualizations of costs for specific products and processes can be compared side by side in real time to identify any business units whose productivity is lacking.

## Key Takeaways

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When data engagement is the name of the game, users are looking for tools that will help them quickly and thoroughly understand complex information that lives in a state of constant flux. Real-time visualization helps decision makers closely monitor their respective worlds, and fuels informed, impactful action. Organizations weighing the benefits of real-time visualization should consider the following:

- **Live visualization means faster decisions.** Live, pertinent data helps organizations strike while the iron is hot. Organizations with real-time visualizations were able to access pertinent information within the decision window 22% more often than those without. In other words, decision makers with real-time visualizations can make over one-fifth more calls based on fact rather than gut feeling.
- **Visualization is best complemented with tools to explore and integrate data.** Seventy-one percent (71%) of organizations with real-time visualization have ad-hoc analytical tools to drill down into data. The ability to dive deeper into the fast-changing data behind visualizations reveals patterns and drives superior understanding. Integration tools combine live feeds with historical data to recognize outliers and emerging trends.
- **Real-time visualization leads to more opportunities, greater output, and lower costs.** Real-time visuals fed by live sales and marketing data reveal more prospects for the top of the funnel. Decision makers can also closely monitor operational performance to squash issues before they metastasize. Finally, real-time visualization helped organizations reduce their total operating costs by 10%.

Some things are best experienced in the moment, and visual data is one of them.

For more information on this or other research topics, please visit [www.aberdeen.com](http://www.aberdeen.com)

### Related Research

[Operational Intelligence: Grease the Gears of Daily Decisions](#); August 2013  
[Visualization: Set Your Analytics Users Free](#); August 2013  
[Real-Time Operational Intelligence: There's No Time like the Present](#); June 2013

[Seeing the Big Picture: Visualization for Big Data](#); May 2013  
[Real-Time Data Integration: Driving Near Real-Time Analytics](#); September 2012

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