# INTERACTIVE DATA VISUALIZATION: THE AGE OF "LOOK BUT DON'T TOUCH" IS OVER

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## Report Highlights



This Research Report examines the superior performance achieved by interactive data visualization adopters across several metrics.

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## The End of an Era

All good things come to an end, but sometimes they give way to worthy successors. Static data visualization had its time in the sun. Now, Aberdeen Group's research demonstrates the superior business performance of organizations that have taken their visuals to the next level. Interactive data visualization supports exploratory thinking, as decision makers can actively investigate intriguing findings. According to Aberdeen's 2014 Business Analytics survey, adopters of interactive visualization achieve faster decision making, greater data access, and stronger user engagement, in addition to desirable results in several other metrics. In the face of these quantifiable advantages, the age of "look but don't touch" visualization can be confidently laid to rest.

## Improvements Driven by Visualization

Interactive data visualization drives improvements in several aspects of analytical decision making (Figure 1). Seventy percent (70%) of interactive visualization adopters achieved an improvement in collaboration with both internal departments and external stakeholders. Analytical thinkers can sit down with interactive visuals when they are just getting started on a problem. The ability to manipulate charts and explore new data sources gets users asking questions. Who else needs to be involved in a decision? What are the technological requirements of additional analysis? Users can also see where data they are interested in comes from and collaborate with that department or external partner, such as a supplier.

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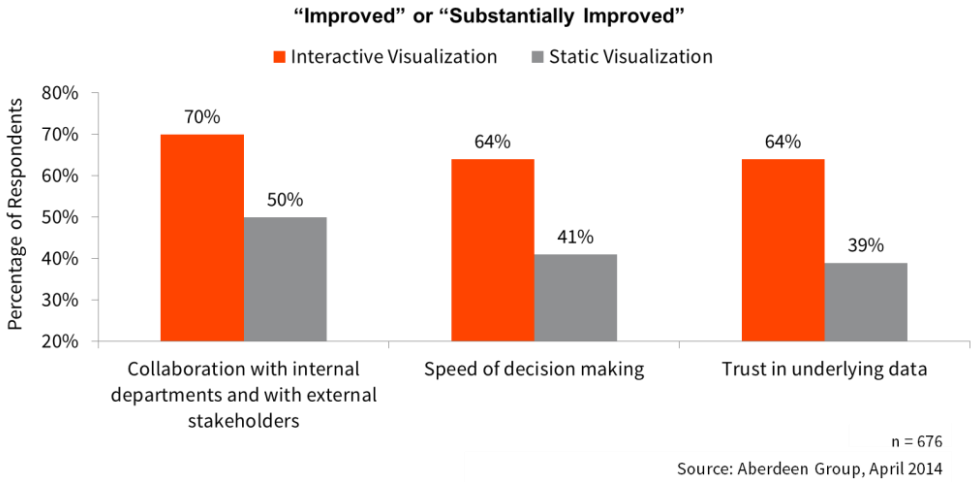
## Figure 1: Improvements in the Past 12 Months




IT can be the most important collaboration partner for interactive visualization users. In an enterprise context, users perform analysis, and IT provides the necessary infrastructure and support. Interactive data visualization enables users to push the boundaries of their capabilities and prototype more ambitious analytical initiatives. Users can see how far visual data discovery will take them and recognize when they need additional IT resources. For example, visual discovery may lead a user to a data source that would offer new insights if integrated into existing charts and dashboards. Using interactive visualization for this prototyping phase defines what IT would need to do to make new ideas into realities.

Sixty-four percent (64%) of interactive visualizers improved their speed of decision making. The ability to manipulate and explore data helps users pull the trigger faster. With interactive visualization, decision makers don't need to wait for the perfect piece of static information to cross their desk to start performing analysis. They can begin with the visuals at hand and interact with the data as they go to hone their analysis. Interactive visuals encourage decision makers to ask the questions that are

Aberdeen collected data from 676 survey respondents using data visualization. Interactive visualizations allows users to change the visual representation of data, select sub-sets of data, and connect directly to data sources to allow users to drill down from summary reports to specific data points. Static visualization includes pre-packed spreadsheets or reports with flat images and minimal underlying data available. The breakdown of interactive versus static visualization adopters was as follows:

Interactive visualization:
227 respondents

Static visualization:
449 respondents

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holding them back. Proactive users reach conclusions faster than reactive users.

Interactive visualization adopters are 64% more likely than non-adopters to have improved trust in underlying data. The more users explore their data using interactive visuals, the more they understand the various sources feeding their charts and dashboards. Their trust grows as they drill down from the top layer of visualization and investigate relationships between different metrics and data points. Visual data discovery helps users better understand any imperfections in their data so they can still move forward with analysis. Aberdeen's report, *Interactive Data Visualization: Strategies and Key Technologies*, discovered that interactive visualizers are 89% more likely than static visualizers to have data management and data quality tools. When users trust the data at their fingertips, they find value in diving in and building out their analysis.

➔ Related Research:

"Interactive Data Visualization: Strategies and Key Technologies"

## Bolstering User Engagement

These ongoing improvements will continue to empower users and drive a faster, more comprehensive analytical experience. Interactive data visualization also fosters a larger and more engaged BI user base (Figure 2). Recent Aberdeen research on interactive visualization for marketing data revealed that organizations invested in interactive analytical tools are significantly more likely to also invest in other analytical technologies. This idea that technology begets technology can be seen in the swelling user bases of interactive visualizers. On average, adopters of interactive visualizations deliver BI access to 61% of employees expressing a need or desire, compared to just 38% of employees for static visualizers. Business leaders witness the enthusiasm users bring to working with interactive visualizations and support data exploration initiatives across the organization. They are also inclined to offer BI access to more

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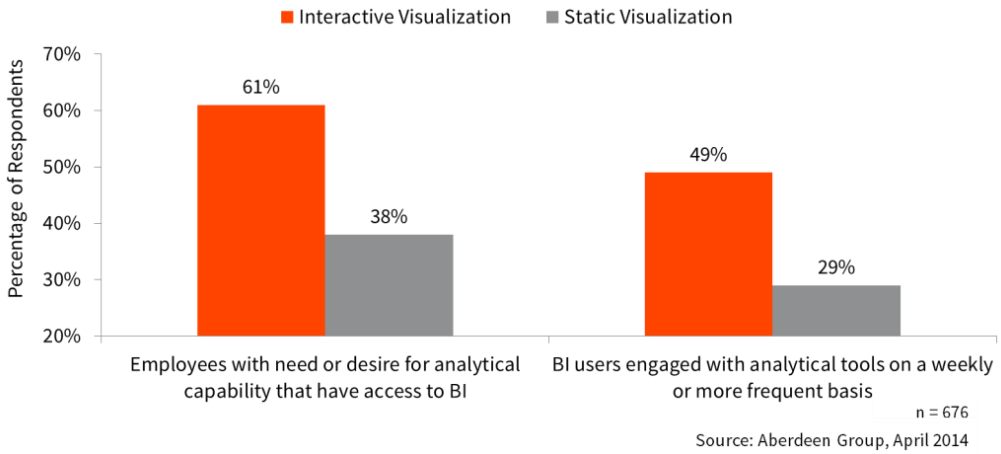
employees after calculating the return on investment (ROI) of the fresh insights generated by users engaging with interactive tools. A growing user base actively exploring data supports an analytical culture that encourages discovery and piques data curiosity in even more employees.

**Figure 2: User Engagement**




Not only do interactive visualization adopters deliver analytical capabilities to more employees, users of interactive tools engage data more often. Compared to static visualizers, interactive visualization adopters have 69% more of their user base engaged with analytical tools on a weekly or more frequent basis. Static visuals can't be changed or manipulated at will. There is less motivation for users to frequently engage with visual tools if there is no potential for new discovery. Interactive visualizers can always uncover new insights and will engage analytics whenever the need for information arises.

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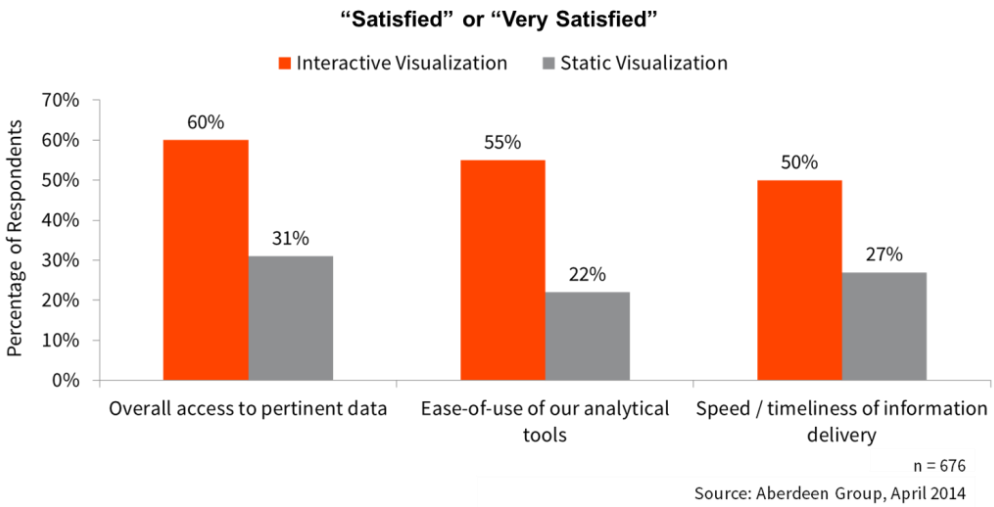
## More Satisfied Users means More Insights

User satisfaction is just as important as user engagement. Quite simply, if users aren't satisfied with their day-to-day analytical experience, they won't use visual tools. Aberdeen asked interactive and static visualizers to rate their satisfaction with

**Interactive visualizers are 150% more likely than static visualizers to be satisfied with the ease-of-use of analytical tools.**

several aspects of their analytical experience (Figure 3). Interactive visualizers are 94% more likely than static visualizers to be satisfied with their overall access to pertinent data. Interactive visualization users know that their charts and dashboards are just the top layer of available data; with just a few clicks, they can create new views and answer burning questions. Interactive visualization provides ingress to vast data sets that offer the information users are looking for and untold analytical riches. Users whose analytical curiosity is stifled by the limitations of their visualizations will quickly become demotivated to uncover new insights. Interactivity allows users to go get the answers they're looking for, and present the data in the optimal visual format, both for themselves and their team.

**Figure 3: User Satisfaction**




➔ Read related research,

"Self-Service Drives the Analytics SME"

Another fast way to frustrate users is to give them tools that are difficult to use. Interactive visualizers are 150% more likely than static visualizers to be satisfied with the ease-of-use of analytical tools. Interactive visual tools are intuitive. Users see an intriguing chart or data point and they click to investigate. They are not stymied by rigid data presentation, so business analysts can quickly create new views of data to suit evolving needs and

changing audiences. Also, 47% of interactive visualization users operate in a self-service capacity, a 27% greater proportion than static visualizers. Self-service users are free to explore data and create new analysis without IT holding anybody's hand. This leaves IT free to serve in a strategic role as BI deployments grow and provide services like user onboarding and training.

Finally, interactive visualizers are 85% more likely than static visualizers to be satisfied with the timeliness of information delivery. Interactive visualization users get information when they want it because they are able to go and get it themselves. They don't have to wait and see if their dashboard has refreshed or hope IT turns around a requested report. Users spend time answering their own questions instead of waiting in an IT queue. In addition to achieving greater user satisfaction, interactive visualizers obtain pertinent information within the decision window 23% more often than static visualizers (see sidebar). This means more time-sensitive decisions are based on hard data instead of gut instinct or best guesses. Interactive visualization gets the right information to the right people when it matters.

➔ Read related research, "Real-Time Data Visualization"

Aberdeen defines the **decision window** as the period of time when information is valuable for a choice at hand. On average, interactive visualizers were able to obtain information within the decision window 76% of the time, compared to 62% of the time for static visualizers.

## Key Takeaways

Getting users to think visually about data should be the first step of the analytical journey. Interactive data visualization represents the next step: encouraging fresh questions and presenting new avenues for discovery. Users have the opportunity to answer those questions by drilling down into charts and incorporating additional data. Static visual information may leave those questions unanswered. The age of "look but don't touch" analytics is over because the benefits of interactive data visualization are too manifest to ignore:

- **Interactive visualization drives improvements in the analytical experience.** Interactive visualization adopters are significantly more likely than static visualizers to have improved their speed of decision and trust in underlying data in the past 12 months. Additionally, seventy percent (70%) of interactive visualizers improved collaboration with both internal departments and external stakeholders. Enhanced collaboration with IT can be especially valuable for prototyping new analytical initiatives and managing IT resources.

- **Interactive visualization fosters user development and engagement.** Successful technology investment begets more investment. Interactive visualization adopters deliver BI access to 61% of employees expressing a need or desire, compared to just 38% of employees for static visualizers. Budget holders can easily justify adding more users when they see the ROI of insights uncovered through visual data exploration. Interactive visualization users also engage their solutions more often, as they always have the opportunity to create new views of data and investigate additional information.

- **Adopters of interactive data visualization have a more satisfied user base.** Users that are dissatisfied with their analytical experience will not leverage the tools at their disposal. Interactive visualizers are 94% more likely than static visualizers to be satisfied with their overall access to pertinent data. They are also 150% more likely than static visualizers to be satisfied with the ease-of-use of analytical tools. Happy users are more productive and more likely to explore data and uncover new insights.

When the steady advance of technology closes a door, it also opens a window. In the case of analytics, that window is on a

desktop, filling the screen with interactive visual opportunities for data exploration.

For more information on this or other research topics, please visit www.aberdeen.com.

**Related Research**

*Interactive Marketing Analytics: Technology Begets Technology*; April 2014
*Interactive Data Visualization: Strategies and Key Technologies*; March 2014
*The Executive's Guide to Effective Analytics*; December 2013
*Real-Time Data Visualization: $%&# It! Do it Live!*; October 2013
*Self-Service Drives the Analytic SME*; August 2013
*Visualization: Set Your Analytics Users Free*; August 2013
*Analytical Collaboration: The Whole is Greater than the Sum of its Parts*; July 2013

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**About Aberdeen Group**

Aberdeen Group conducts research focused on helping business leaders across sixteen different B2B technology disciplines improve their performance.

Our process is simple – we conduct thousands of surveys every year to identify top performing organizations and uncover what makes them different. We share these insights back with the market in the form of in-depth research reports and content assets to help our readers build business plans capable of driving better results with the right set of tools to help them get there.