

Government Analytics Survey

Results and Analysis

SEPTEMBER, 2019

GOVERNMENT
ANALYTICS
BREAKFAST
Forum



JOHNS HOPKINS
KRIEGER SCHOOL
of ARTS & SCIENCES



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Johns Hopkins, REI Systems, and ACT-IAC



- **The Johns Hopkins Program in Government Analytics** prepares students to become leaders in the data revolution and to address contemporary political, policy and governance challenges. Visit advanced.jhu.edu
- **REI Systems** provides analytics solutions, including data management, visualization, and reporting; analytic model development and operation; evaluation of analytic results, and advice. We digitize government to produce healthier citizens, safer communities, and better lives. Visit reisystems.com
- **ACT-IAC** is a trusted and collaborative forum for technology industry leaders and government executives working together to create a more effective and innovative government. Visit actiac.org

Introduction and methodology



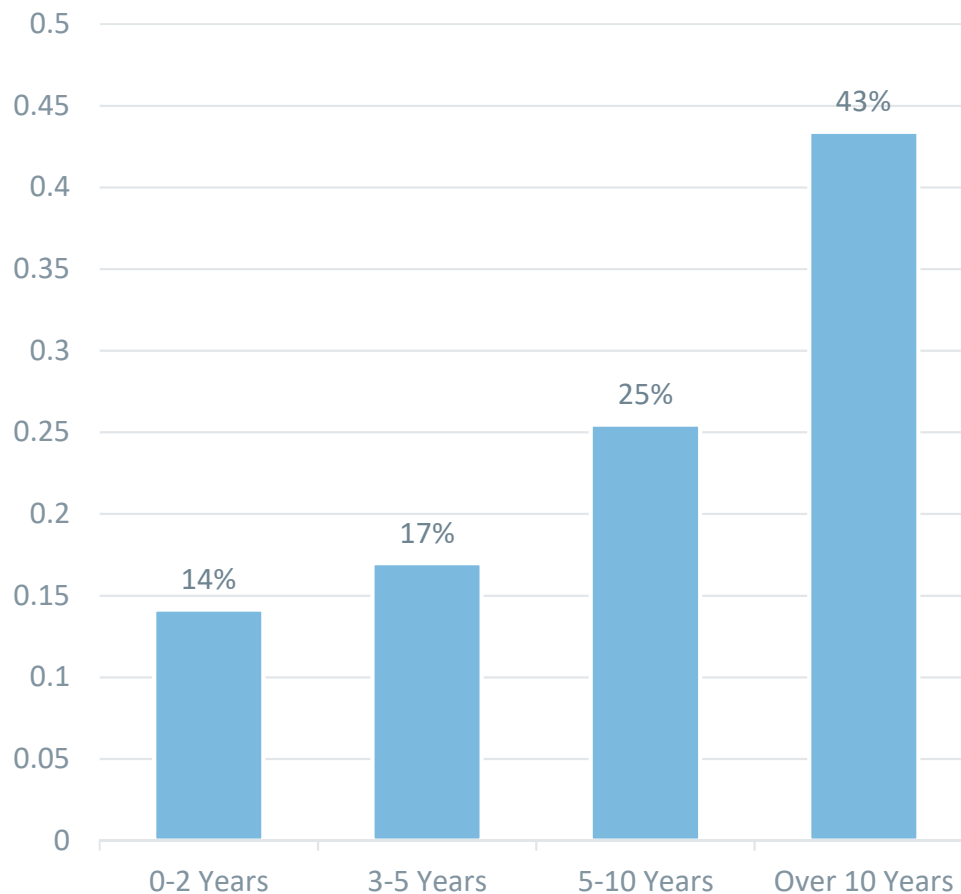
- **PURPOSE:** The purpose of this Analytics Survey and analysis is to inform the government analytics community of cross-cutting issues and trends so as to help improve the value of analytics to decision making, and to improve the effectiveness and efficiency of government
- **SURVEY DESIGN:** JHU, REI, and ACT-IAC developed a survey of analytics practitioners to help identify key practices, resources used and needed, and major challenges, and related topics that could help inform the government analytics community. The survey was pilot tested with a small group of analytics practitioners and users in April/May, and then refined
- **SURVEY ADMINISTRATION:**
 - During June 2019, we invited more than 5,000 professionals in government analytics fields to take the survey online. Any person with a link could respond to the survey.
 - Those invited to respond included attendees of Government Analytics Breakfast Forum events, and other professionals that REI and JHU have been able to identify. Additionally, ACT-IAC extended the invitation to its membership. Those receiving the survey were encouraged to forward it to colleagues
 - Responses were anonymous (though respondents could share contact info to receive results)

Respondents included a mix of federal, state/local and contractors



106 Responses

■ Percent of Respondents

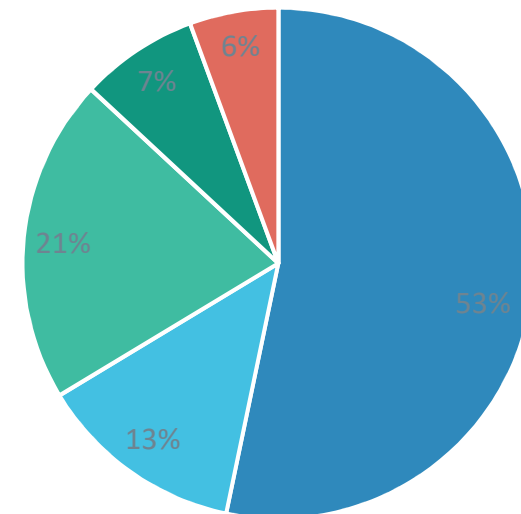


4. For which do you work?

(Survey questions are shown as above.)

Sector of Employment

- Federal
- State/Local
- Consultant
- Acad./Non-Profit
- Other

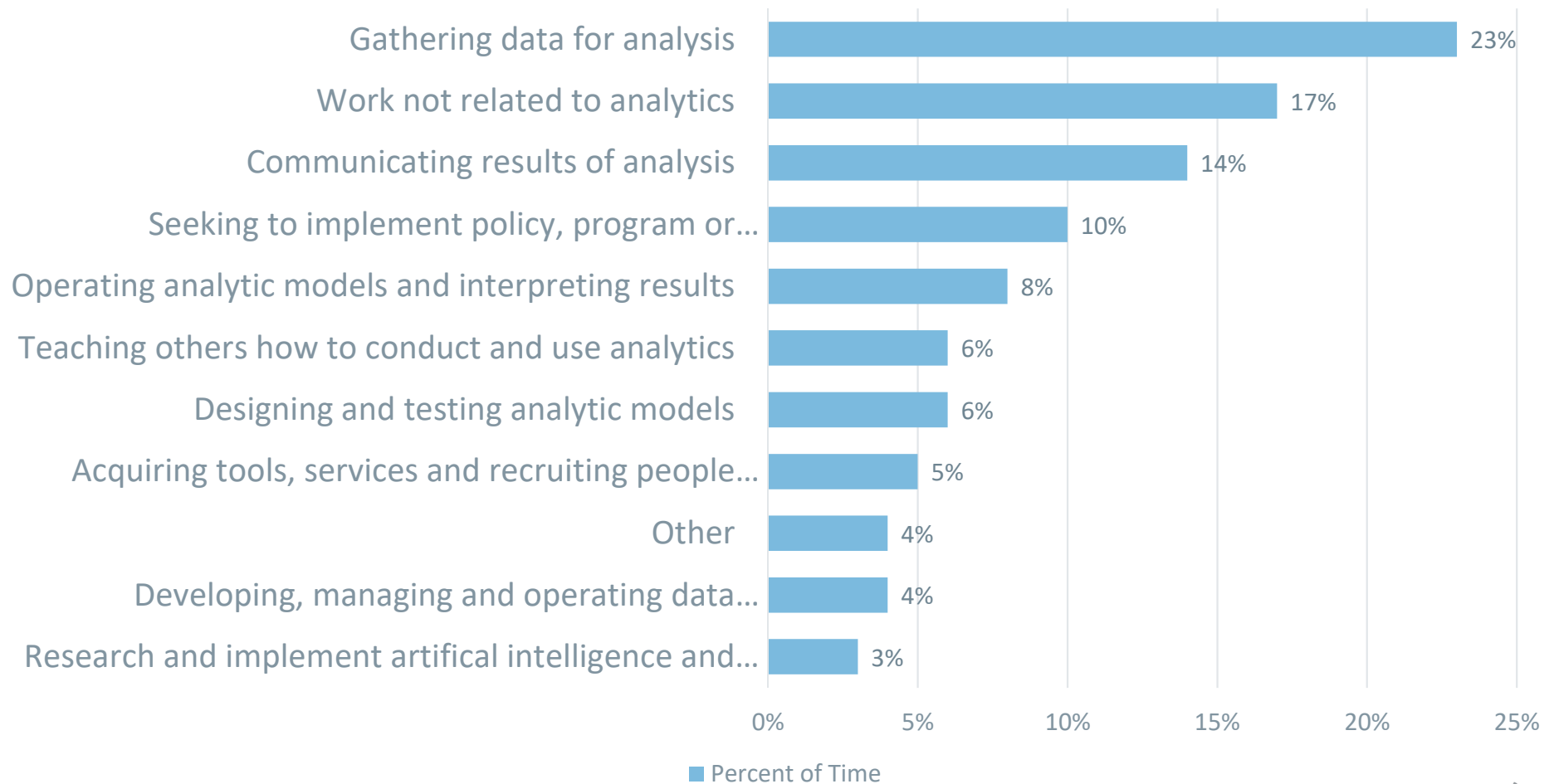


Analytics professionals spend the most time gathering data

.. But relatively little time on artificial intelligence



6. How much of the time you spend on government analytics goes to the following activities?



A modern office interior featuring a large, multi-paned glass skylight that allows natural light to fill the space. The room is furnished with several white, contemporary armchairs arranged in a lounge area. In the background, a reception desk is visible, with a sign that reads "REI SYSTEMS". The overall aesthetic is clean, bright, and professional.

Key Findings

Key Findings at a Glance



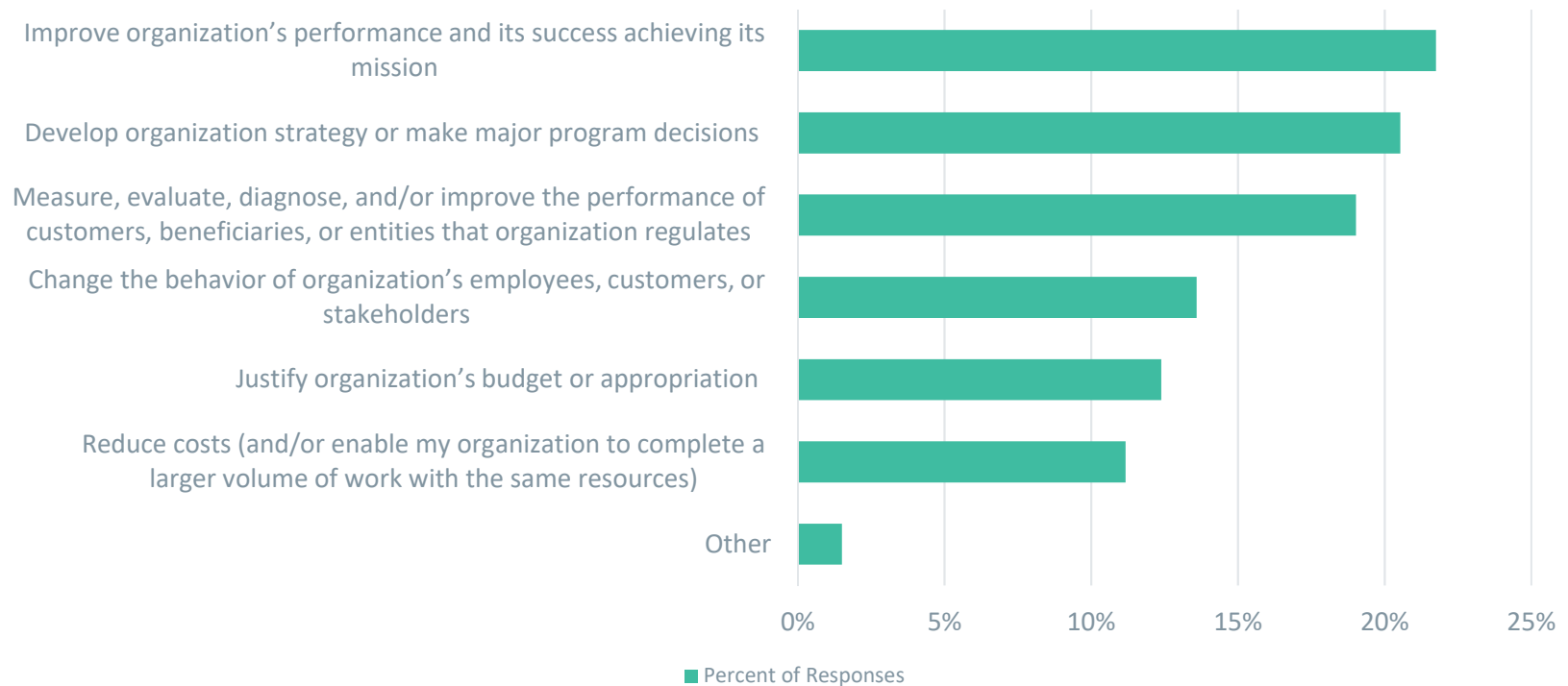
- Analytics are important to American Government
 - 82% of respondents say analytics were “Dominant,” “Of Significant Importance,” or “Equal to Other Factors” in the three most significant decisions made by their agency
- If your analytics focus on money, you’ll have less impact on strategy
 - Analytics focused on justifying budgets and reducing costs correlate to a significantly smaller perceived impact of analytics on the most significant agency decisions (0.5 points of a 1-5 scale)
- People spend the most time gathering data (23%), vs. analyzing (8%), communicating (14%) or acting on it (10%)
 - Streamlining and automating data collection may be an important area for effort
- AI is getting a lot of talk, but not much action
 - Respondents think Machine Learning (26%) and AI (25%) hold the most promise for improving government, but very few respondents (less than 4%) work with AI right now
- Staffing is the biggest hurdle
 - Attracting/retaining staff was named the biggest challenge; and more than 50% of respondents indicate that their agency plans to develop or recruit staff with certification in the field of analytics

Why agencies use analytics, and which?

Overarching Goals: Improve Performance and Inform Strategy



11. What are the primary motivations and purposes for your organization's use of analytics?



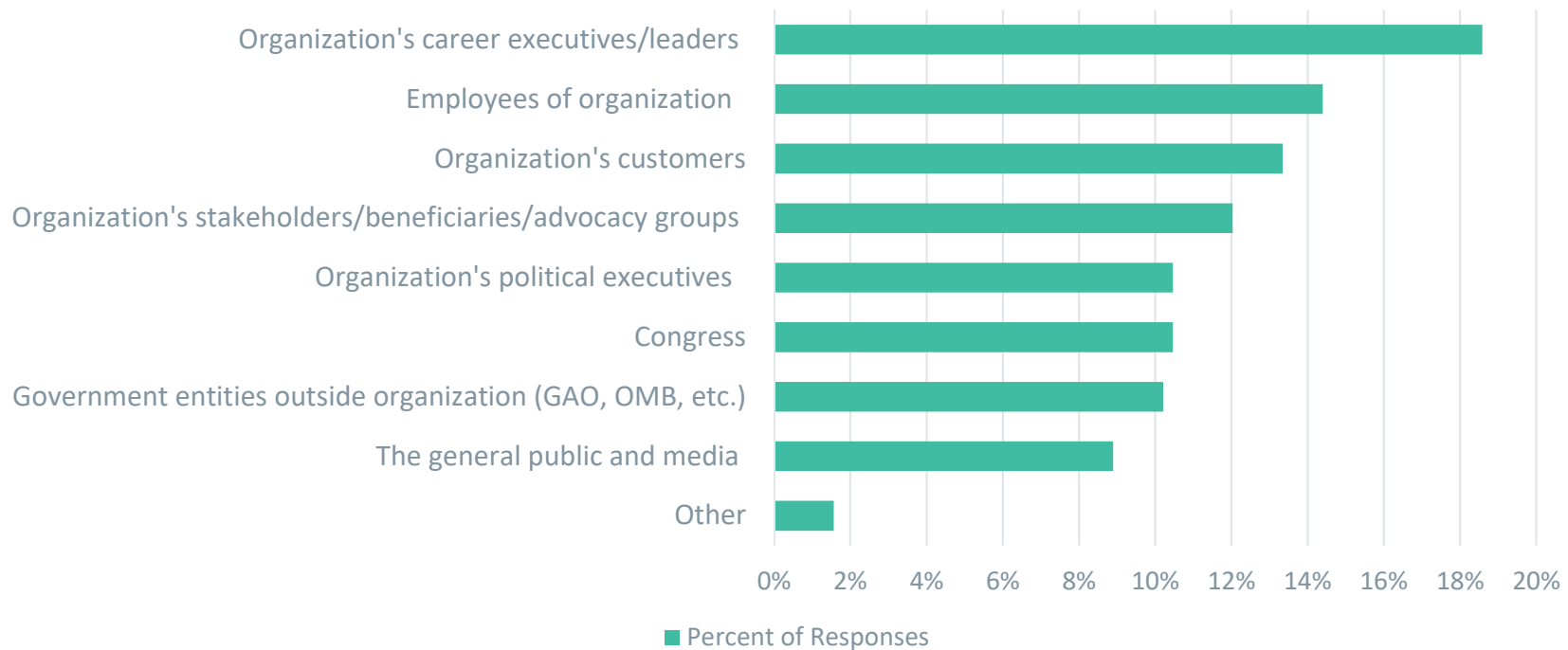
62% of respondents view the chief purpose of analytics to be performance improvement and strategy development. A minority view the chief purpose of analytics to be related to the financial health of their organizations.

Target Audience: Leaders

(but also many others)



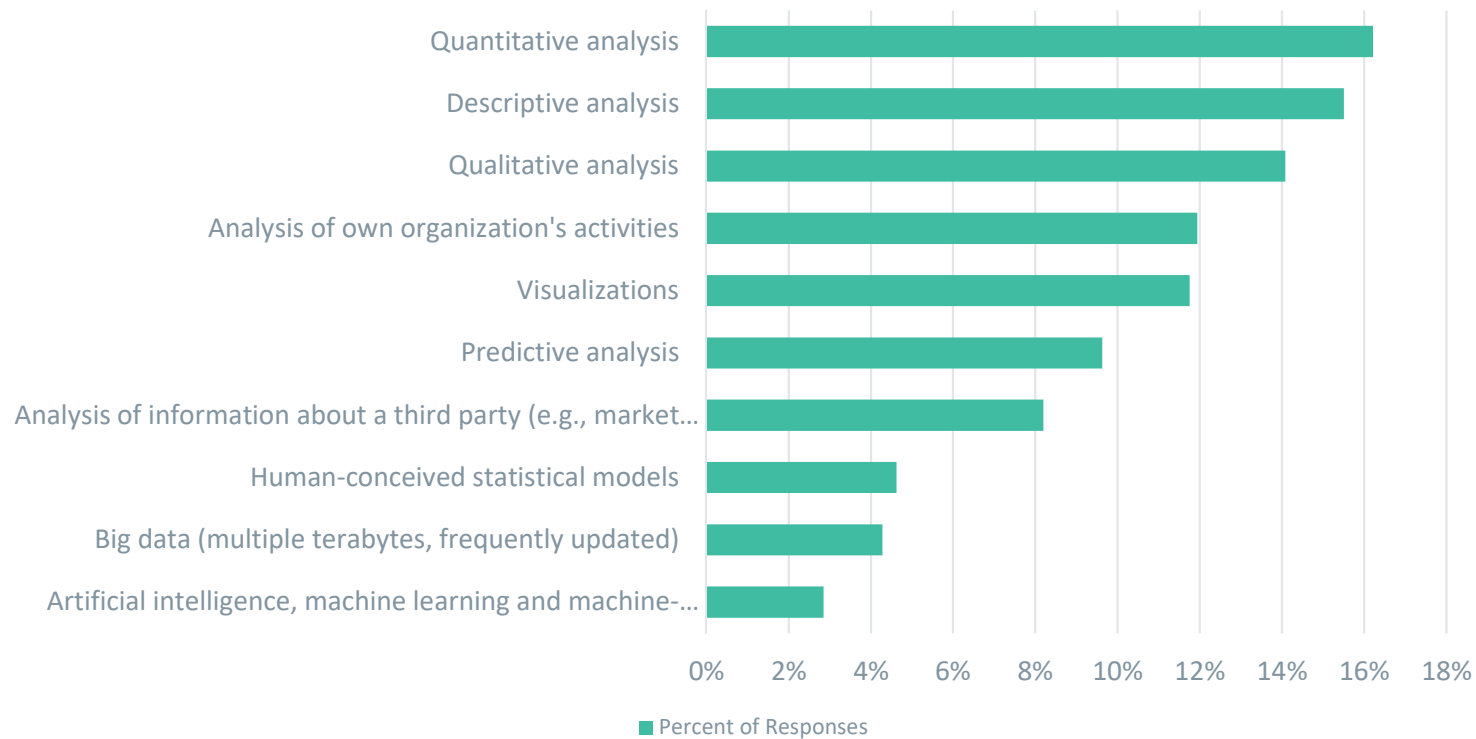
12. Specify the target audience of analytics undertaken by your office.



While one's own leadership is the primary target audience, analytics professionals expect their work to be used by a variety of stakeholders and interested parties.

Traditional Statistical Methods are Predominant

7. What type of analysis do you work with?

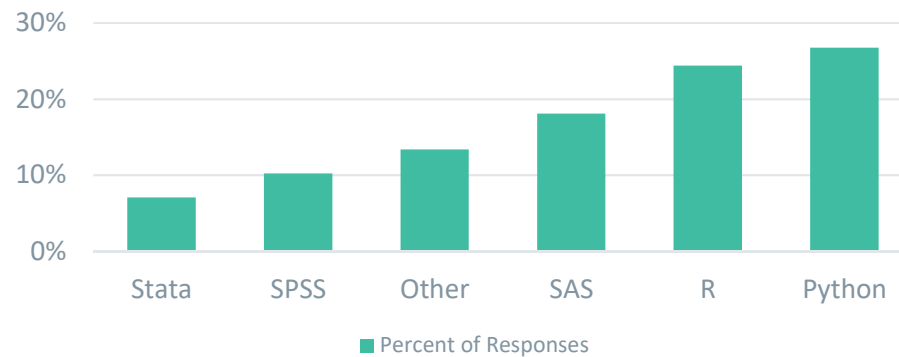


Analysts tend to use traditional statistical methods as well as qualitative methods. The use of big data models and AI is not widespread.

Movement toward Free and Open-source Software for Statistical Analysis



20. Which statistical tools do you or your vendor(s) use?



Free and open-source programs (R and Python) are the statistical tools of choice. They have a steeper learning curve but offer flexibility, extensibility and transparency.

21. Which data management/presentation tools do you use?

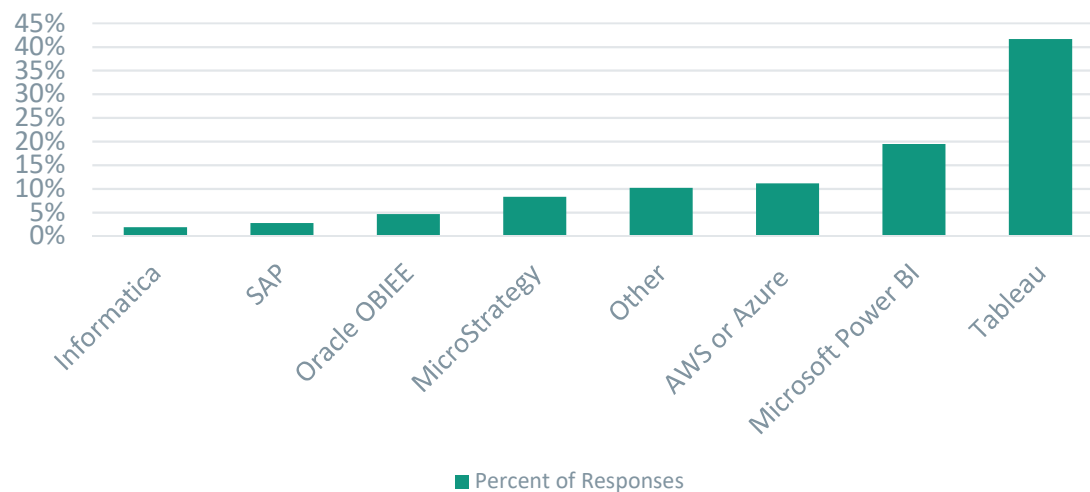


Tableau is the dominant tool for data visualization.

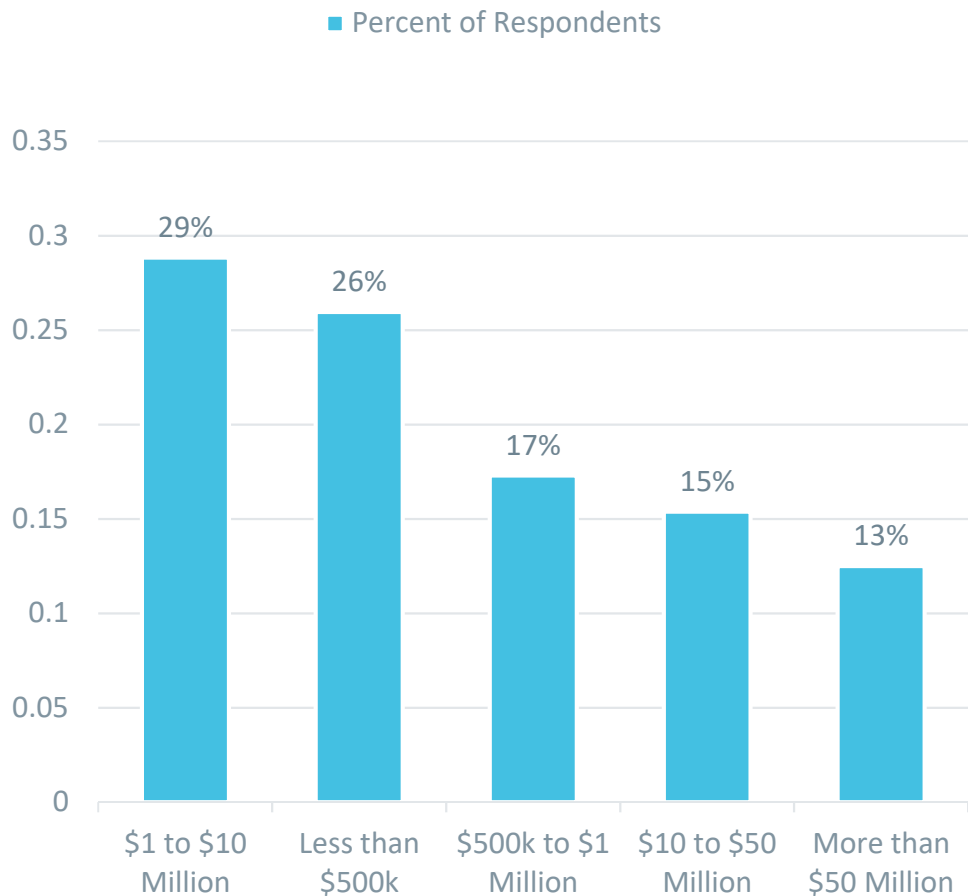


Value obtained from analytics

Agencies are making a big investment in analytics...



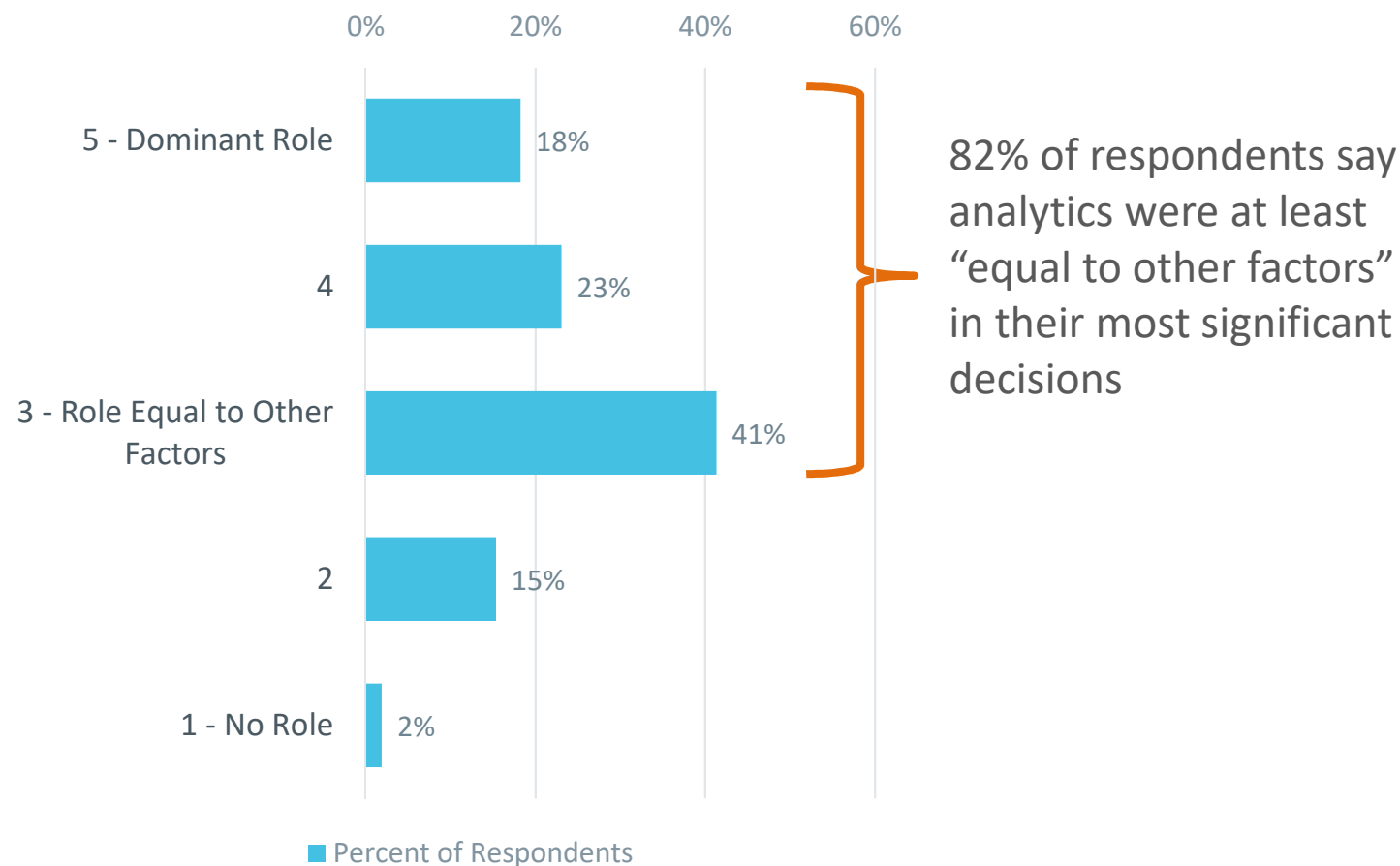
9. Estimate the annual budget of your immediate office



- Assuming each respondent falls at the mid-point of the ranges at left (i.e., \$500k to \$1 Million = \$750k), the total analytics office budgets represented by survey respondents equals just over \$1.6 billion.
- Never the less, 77% of respondents believe their organization spends too few, or far too few resources on analytics.
- 52% of respondents perceive that Executive leaders and managers use data analytics to a significant extent, or to a great extent.

...and that investment is paying off

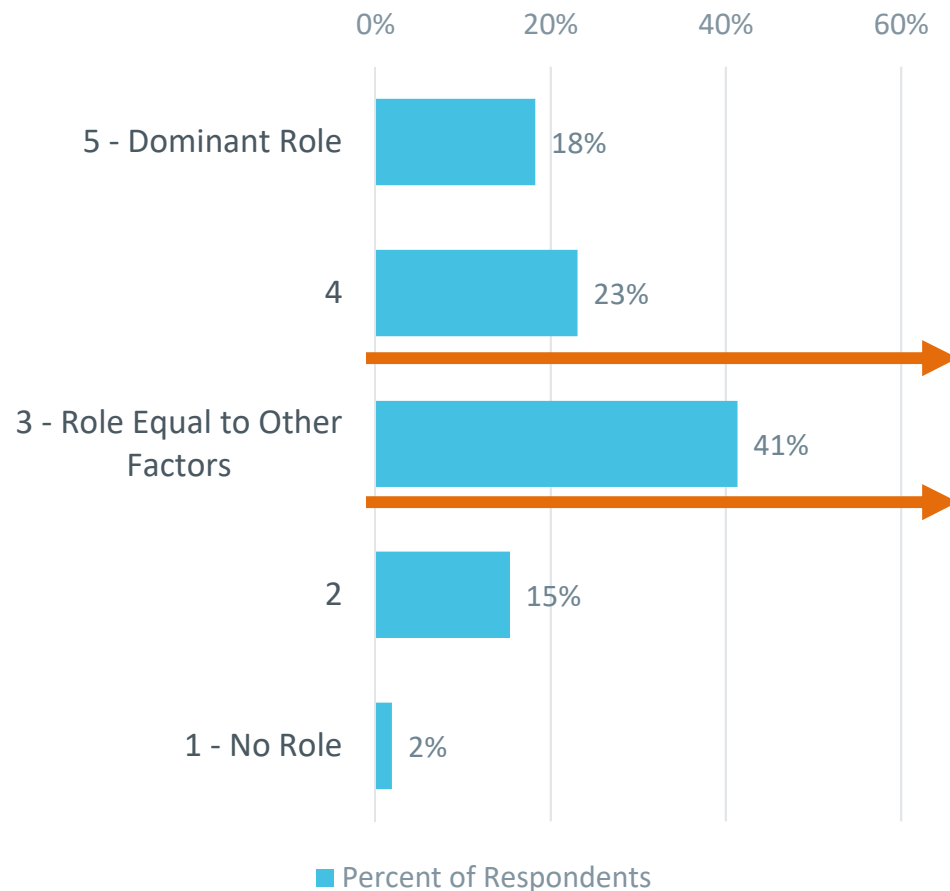
8. For your organization's three most significant policy or program strategy decisions, how significant a role did analytics, data and evidence play?



Agencies that focus analytics on money seem to have less impact on strategy

...or maybe vice versa...?

...how significant a role did analytics, data and evidence play?

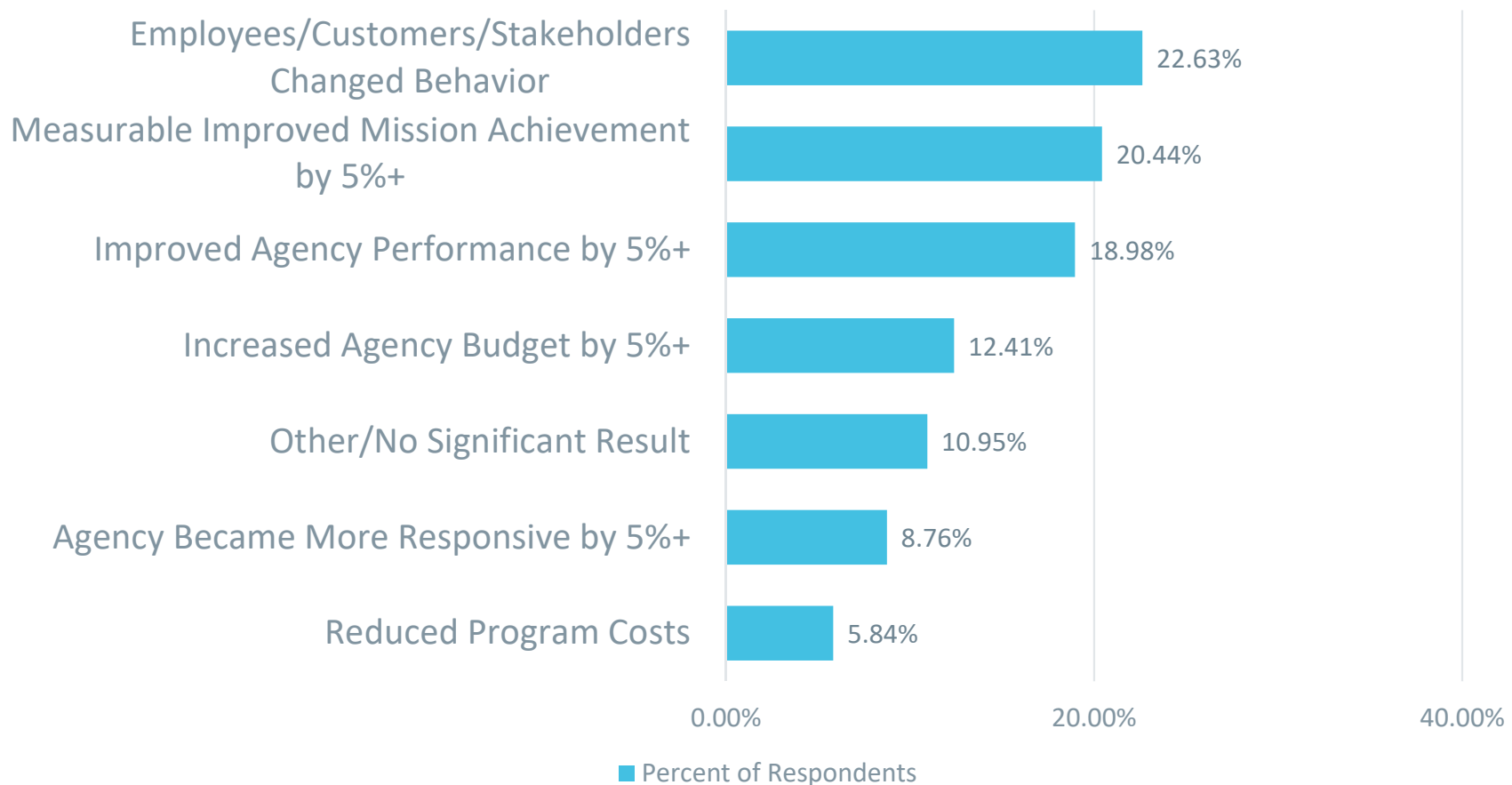


- Agencies that did not mention a fiscal result from analytics indicated an impact of 3.35 on the scale at left
- Agencies that indicated their budget or appropriation increased by >5% (or cost reduction of 5%) in the past 24 months as a result of analytics indicated impact of 2.86 on the scale at left

Analytics' most frequent results are mission achievement and informed stakeholders



16. Has your organization's use of analytics resulted in one of the following?





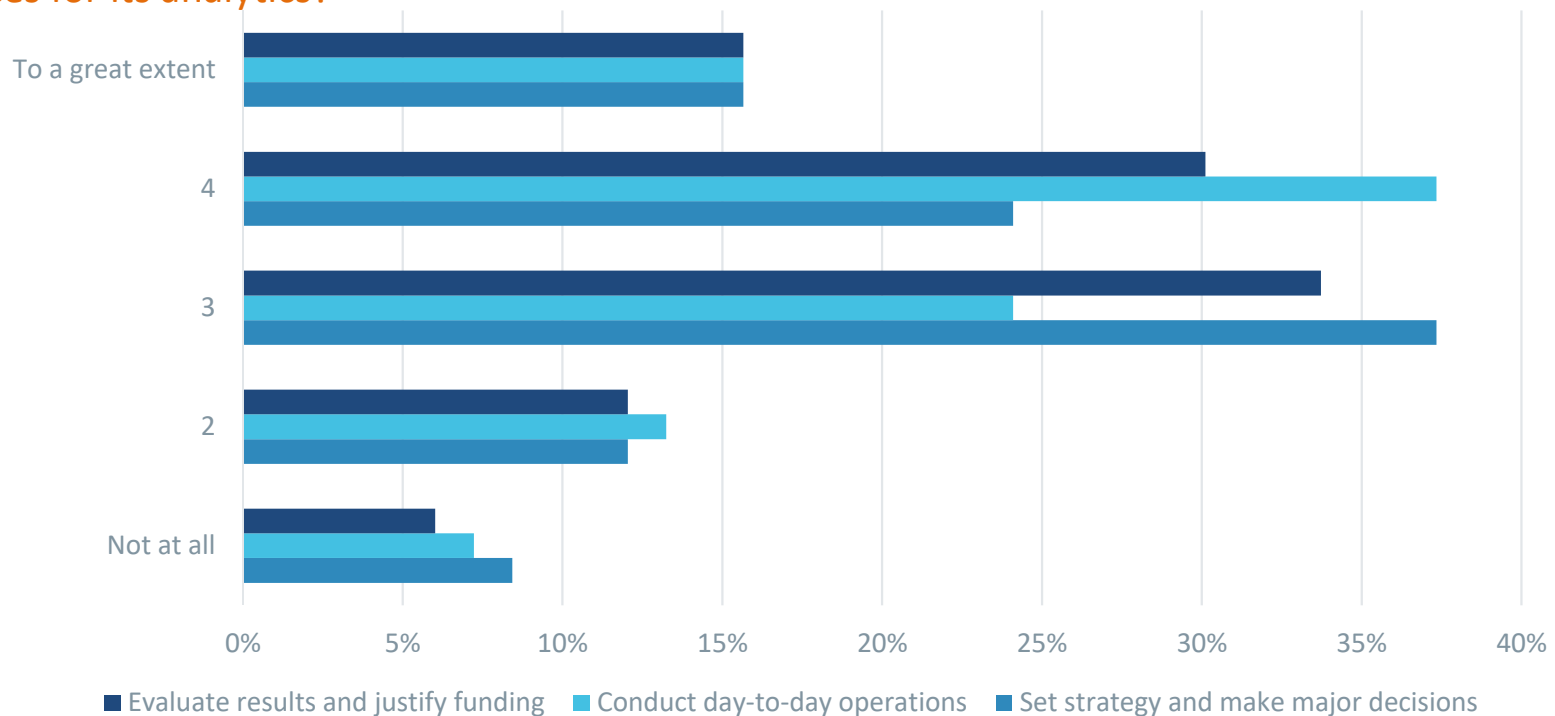
Resources, Staff & Skills: Used and Needed

Does government have the data it needs?

Yes and no



13. Does your organization have sufficient data available to support the primary purposes and audiences for its analytics?



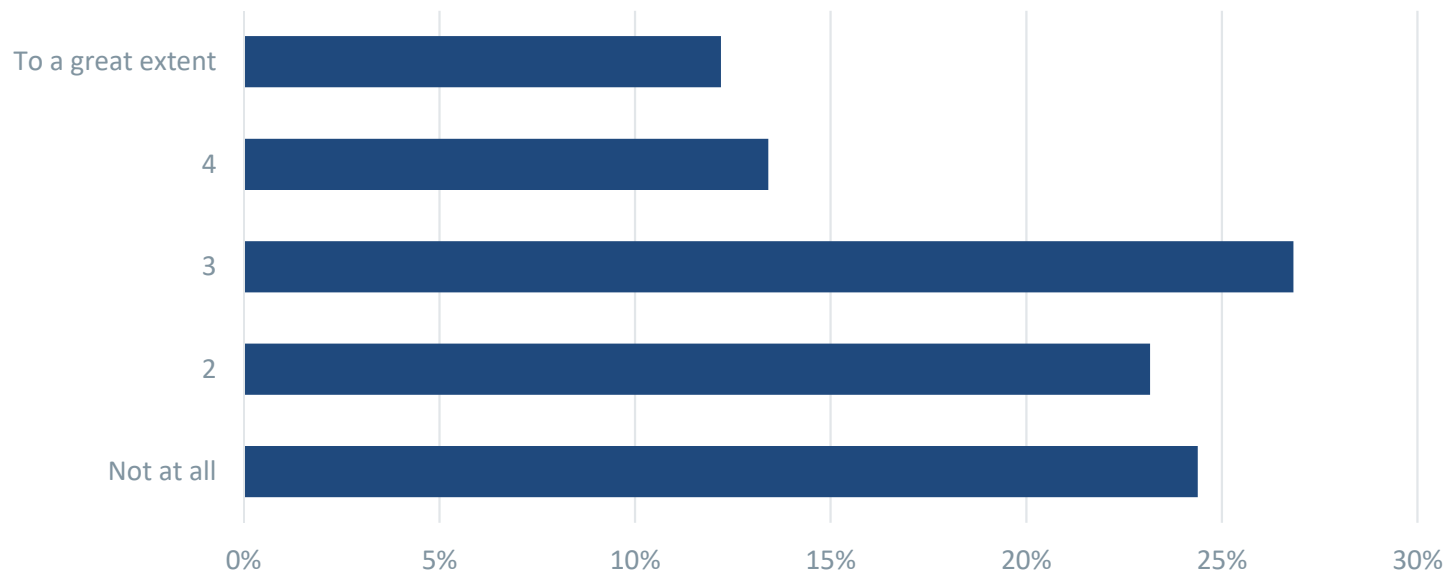
Agencies appear to have a lot of data to conduct day-to-day operations and evaluate results, but they could use more data for big-picture strategy development and decision making.

Does government have the analytic resources & capabilities it needs?

Not really



17. Are your organization's analytic resources and capabilities sufficient to meet its needs?



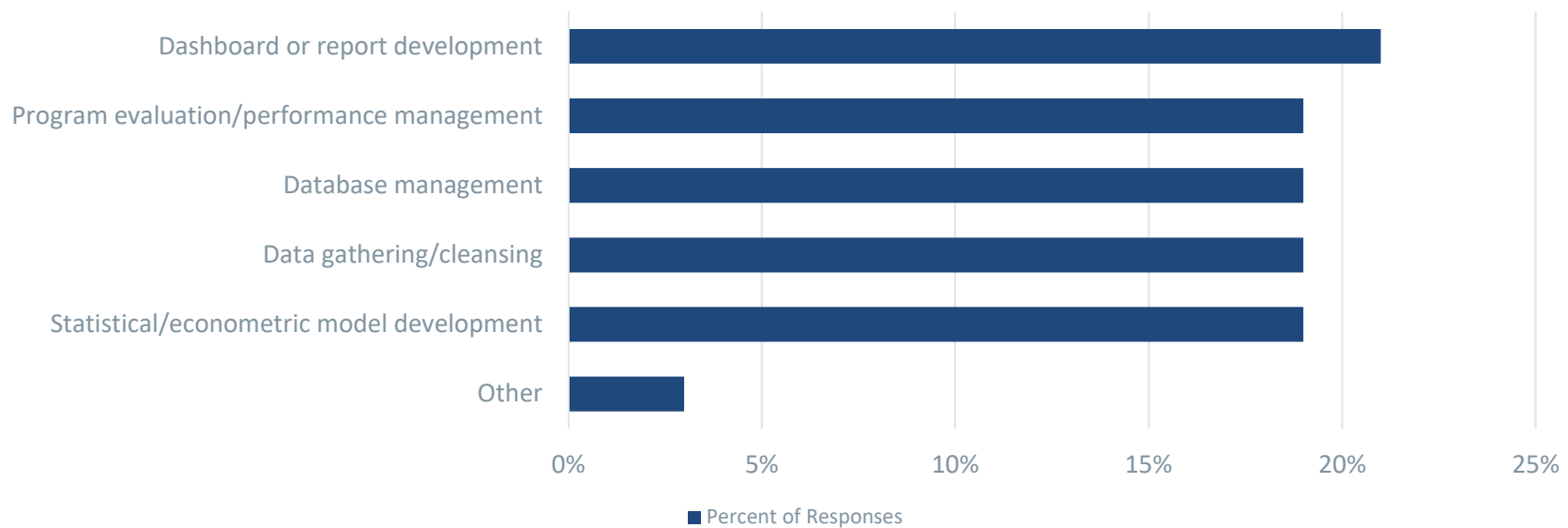
74% of respondents ranked their organization as a “3” or below in terms of whether its analytic resources and capabilities are sufficient to meet its needs. In short, government has more data than it does capacity to analyze that data.

Building capacity across the board



The government analytics community expects to hire across all skill areas.

22. Within your immediate office, please indicate whether future staff will have the following skills?



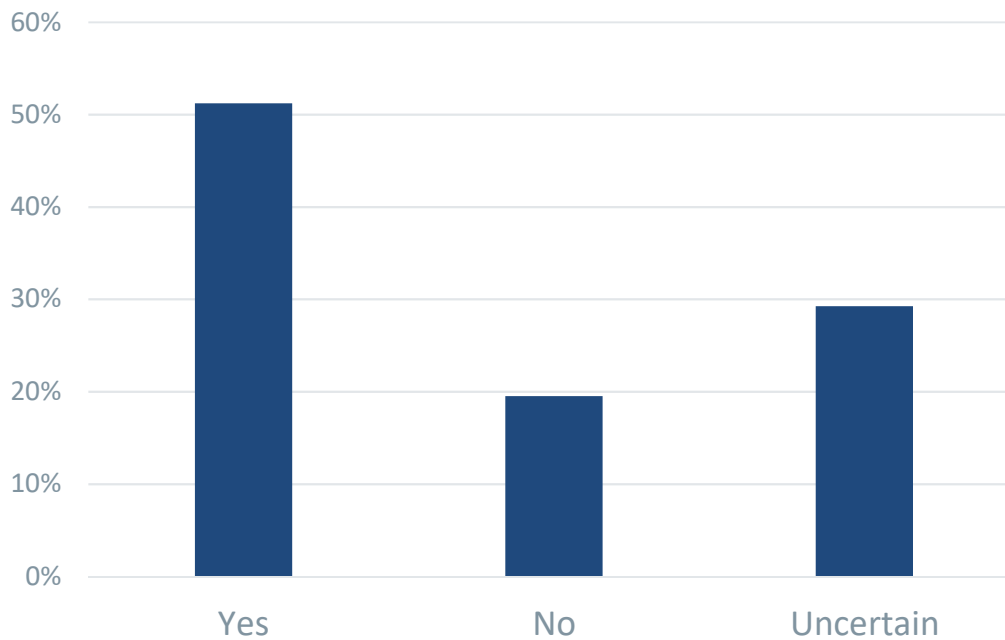
Government analytics groups plan to hire folks in a broad range of skill areas over the next 24 months. There is a need for capacity-building across the board; hiring will not be limited to one particular area of analytics.

Staff Development and Recruitment



Employers will seek out those with a credential in the field.

25. Over the next 36 months, will you seek to develop or recruit staff with a specialized certification in a field of analytics?



Over half of those surveyed plan to hire staff with a credential in the field of analytics, and an additional 29% may do so as well.

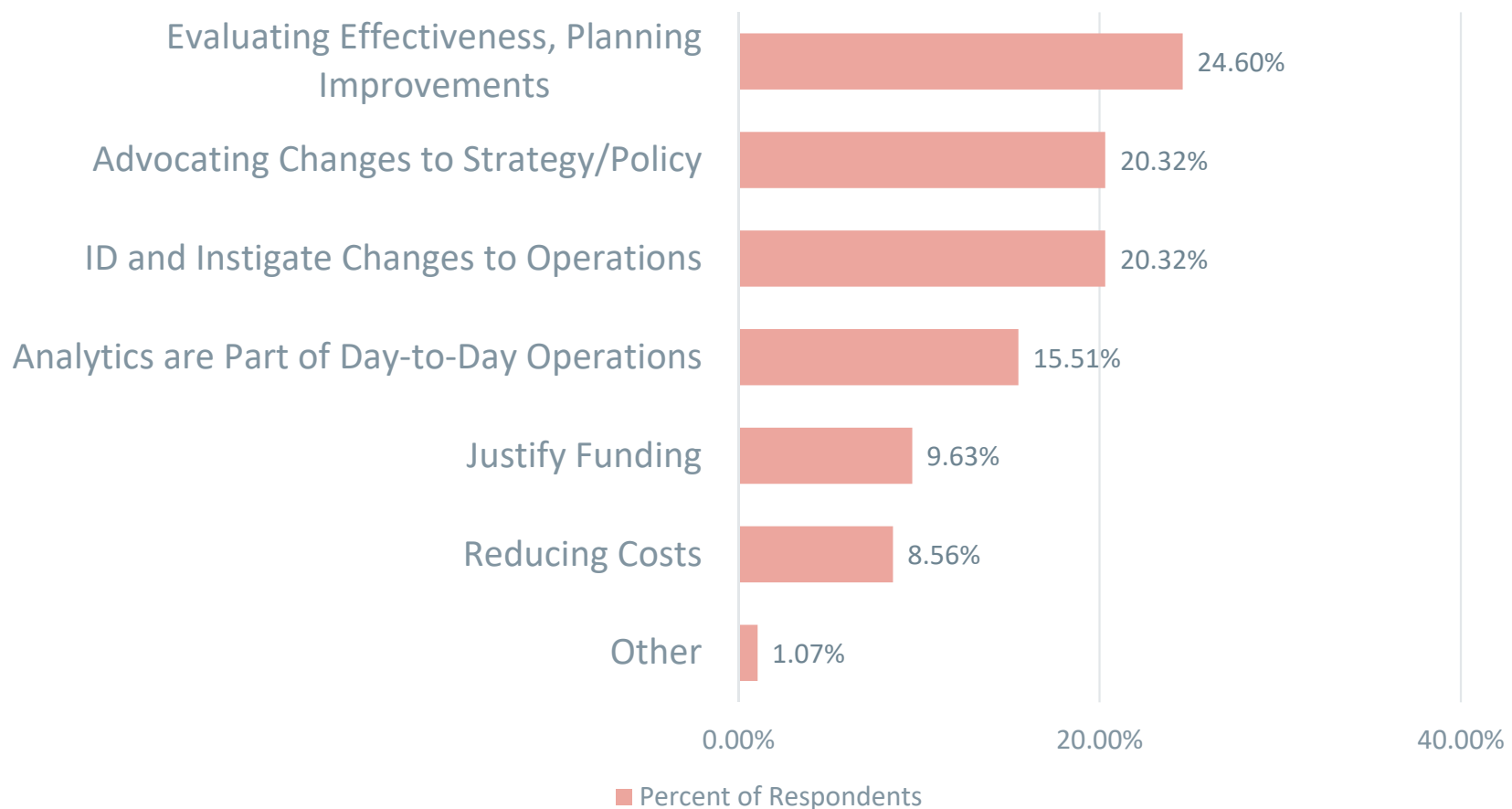
A modern office interior featuring a large, multi-paned glass skylight that allows natural light to fill the space. The room is furnished with several white, contemporary armchairs arranged in a lounge area. In the background, a reception desk is visible, with a sign that reads "REI SYSTEMS". The overall aesthetic is clean, bright, and professional.

Success Factors, and Key Challenges

Respondents defined “What is Success?” in Government Analytics



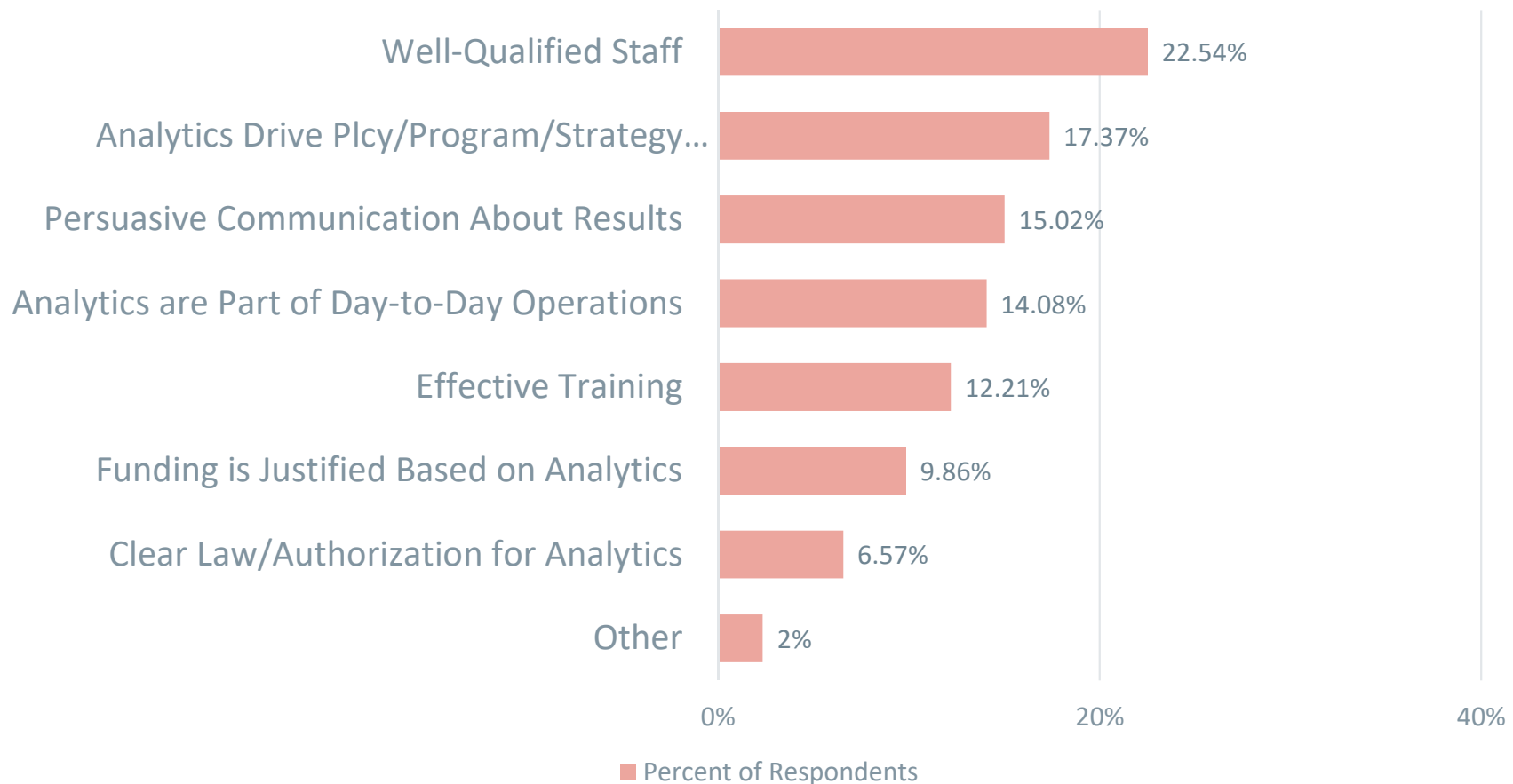
31. What have been the most important types of success that your office has achieved by using government analytics?



Staff, use of analytics for decisions, and communications are the keys to success



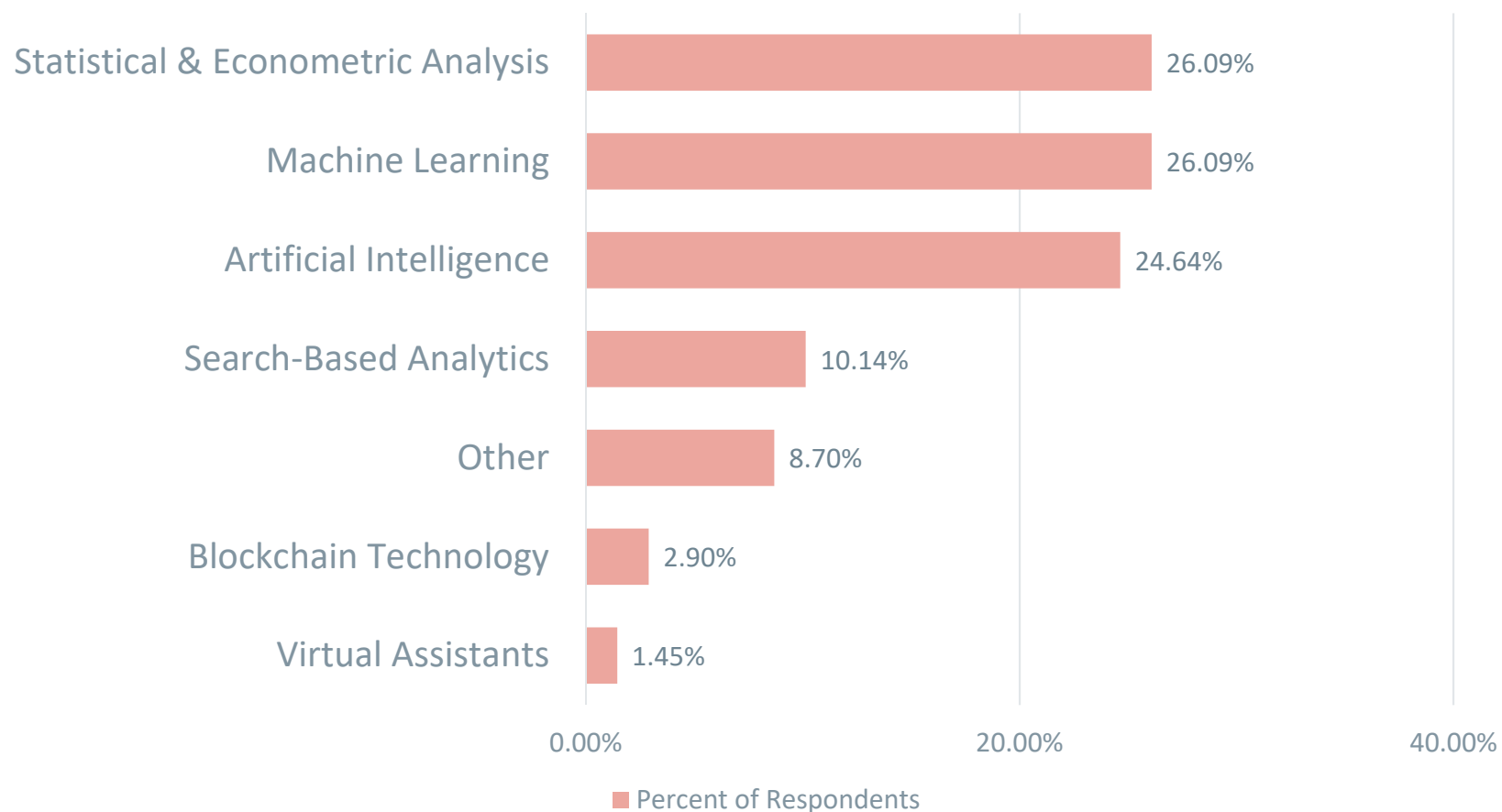
30. What have been the most significant factors that have allowed your office to be successful in government analytics?



The future of government analytics lies in AI and Machine Learning



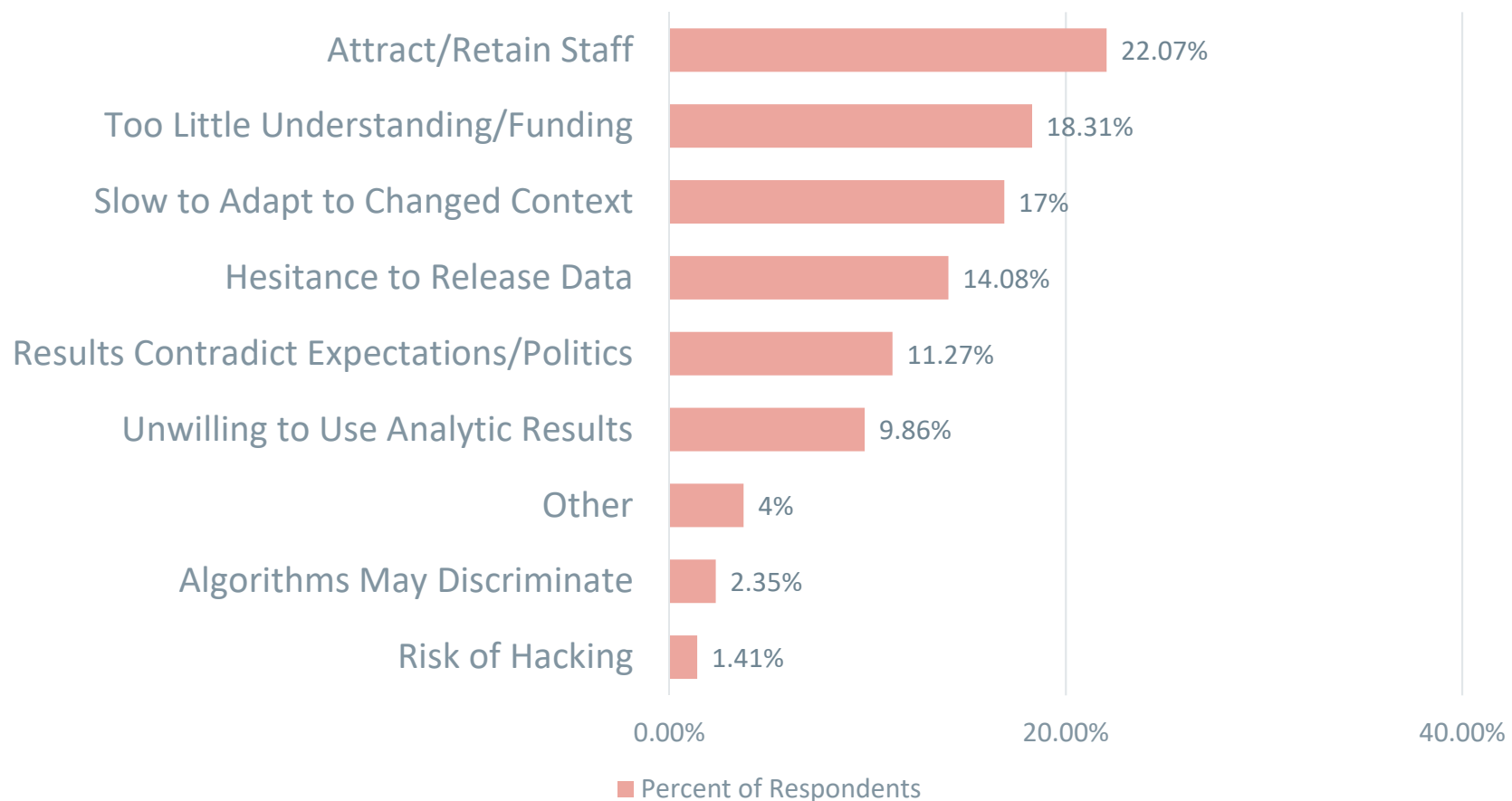
32. What do you think holds the most promise for dramatic improvement to government analytics?



The biggest challenges for gov't analytics are staffing, funding, & slow adaptation



33. What do you think are the most significant challenges facing government analytics?



Takeaways

Problems identified by survey respondents



33. What do you think are the most significant challenges facing government analytics?

- “Big disconnect between the actual data results and policy makers super-unwilling to act on those results”
- “Ability to share data across government agencies’
- “Cost of data collection”
- “Lack of guidance, restrictive privacy laws, and lack of shared services”
- “Bad data, no data, lack of data cleaning, inept contractor support, lack of funds, lack of direction. Pretty Pictures instead of actual insight.”

Suggestions from survey respondents



34. What should be the highest priorities / best ways to improve government analytics?

- “Foster a culture of data-driven government”
- “Incorporate data into daily operations”
- “Develop a specific position description, with competencies, performance expectations and desired outcomes at each pay grade; develop career paths”
- “Remove fluff and buzz words. Not everything needs Artificial Intelligence”
- “Enable platforms to more easily share code and data across agencies”
- “Recruit staff who can communicate the value of analytics to a lay audience”
- “Consider privacy guidance like HIPAA for broader application to government data”
- “Promote data culture/acceptance as part of leadership development for GS-13 & up”
- “Define which analytic topics/purposes are of high importance (prioritize the analytics work load)”

Potential Next Steps



- Set an Agency Analytics Strategy, to reflect the importance of data and evidence to American Government
 - Identify priority audiences, uses of analytics, and gaps between data needs and data in-hand
- Don't focus analytics just on seeking funding or cost cutting: use data and analytics to drive strategy, evaluate results, and communicate with stakeholders
- Streamline/automate data collection, and plan to standardize and share data across agencies and levels of government – so as to reduce effort gathering data and increase effort on analysis, communication and actions resulting from analytics
- Get ready for Machine Learning and AI – plan pilot uses to find the best value
- Create an analytics staffing plan and strategy, including certification

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