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The Golden Era of Data

No matter where you look, the amount of data that the government generates and collects is staggering. When data is properly harnessed, potential benefits are endless. Greater efficiencies can be untapped, quicker turnarounds can be designed, and more effective processes can be implemented. The goal of data fluency is a better outcome — better decisions from better data analysis.

Creating Momentum

But why aren't more government agencies using data to solve problems? Because data analysis is not intuitive. Developing advanced problem-solving skills is not emphasized in many organizations. As a result, public and private industries suffer the consequences of not using their data to its full potential. It doesn't have to be that way. By developing your employees' data-analytical skills, they'll glean the most insights possible from the data. Once an organization takes data analysis seriously, momentum takes over and more employees will engage in the effort, bringing about more-informed decisions and better outcomes.

The Proven Value of Visitor Data

Our public museums, parks, and historical sites host millions of visitors each year. The data collected by these institutions provide guidance for many of their essential functions. For example:

- Monitoring building environmental control system data, such as temperature and humidity, enables staff to ensure the preservation of national treasures and cultural artifacts
- Identifying trends in visitor traffic helps institutions predict revenue from the gift shop and eatery sales
- Tracking seasonal weather patterns helps predict visitor traffic and inform staffing needs, potentially saving money and increasing customer satisfaction
- Gathering feedback and tracking visitor traffic to exhibits helps institutions tailor their offerings to meet the needs of the public
- Obtaining information from alarm sensors, video surveillance recordings, incident reports, and observations helps high-level security teams evaluate risk levels in order to develop cost-effective security plans



Transition from Literacy to Fluency

In *A Step-by-Step Guide to Data-Driven Decision Making for Federal Employees*,¹ we discussed the steps for using data to drive decisions: define the objective, gather data, analyze data, and act on the insights. Now, we need to go beyond *data literacy* — the literal understanding we get from our vehicle's owner manual, to *data fluency* — the vision and insight of a director who brings a movie script to life through their interpretation.

By creating upskill and reskill opportunities for your employees, you can build a dedicated team of problem-solving data analysts from within your existing workforce. Molding your team into discovery-makers will help your entire organization meet mission objectives and achieve greater outcomes.

¹Johnson 2020

The Proven Value of Case Tracking

One of the federal agencies that resolves program participant disputes has established a case tracking system to monitor the phases of regulatory appeals from case filing to final resolution. Here are some of the measurable benefits that have been realized from this effort:

1. Leaders use case tracking data to evaluate service quality, regulatory timeline compliance, and employee performance.
2. Since this tracking system has been integrated with the agency’s operations, inclusion of additional data such as electronic service requests, audio recordings of appeal hearings, case records, and data visualizations has become routine.
3. Agency discourse about strategic planning and accomplishments has been greatly enhanced by data transparency and improved financial outcomes.

By understanding the value of the data through the stories it tells, this agency is harnessing its value in a way that helps streamline processes, improve workflows, and boost customer satisfaction.

Start with What You’ve Got

Comparing the selection of analytical tools on the market and their various valuable benefits poses quite a challenge. Fortunately, Microsoft Excel is available — a tool that you’re probably already familiar with — to ingest, clean, and analyze your data before moving on to more sophisticated tools that will help achieve data fluency. See a snapshot of one example in Figure 1.

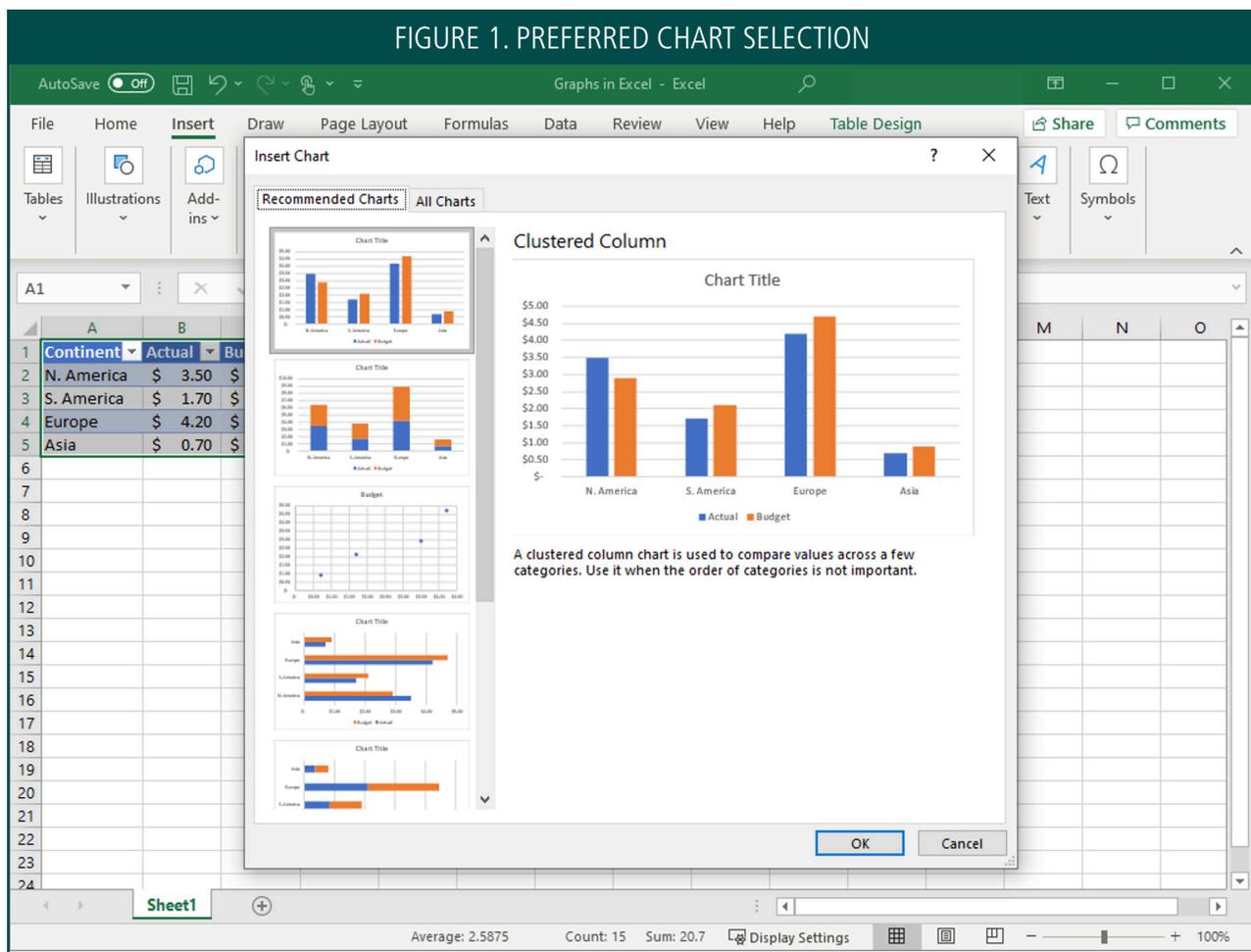


Figure 1: Preferred Chart from Introduction to Analytics (4601)

Seek Out Experts

Going from data literacy to data fluency requires dedicating time and effort. People who are already fluent in gathering, analyzing, and communicating data are likely to be constrained for time. High-priority deadlines most likely eat up their time, preventing them from effectively helping their colleagues develop similar skills. However, with guidance from the Chief Human Capital Officers Council, and tools developed by the Chief Data Officer Council and the Data Skills & Workforce Development Working Group, top analysts could help build a professional development model that could be used as a guide to upskill, reskill, and train employees.

The Cost of Incomplete Information

A decision-maker who relies on literal data interpretation is like an auto mechanic who refers only to the owner’s manual when diagnosing a faulty transmission. In both cases, decisions are being made with limited information — the history, current trends, underlying factors, and many other data points that could be used to shape a more comprehensive understanding of what’s really going on are omitted. There are always other factors that could and should be considered whenever possible. The analysis of a data-fluent advisor is essential to understanding the big picture. Their keen insights can enhance productivity; minimize fraud, waste, and abuse; block security breaches; and improve efficiency, as is evidenced in Figure 2.



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FIGURE 2. DOMESTIC TREATMENT OF ILLICIT STREAMING DEVICES

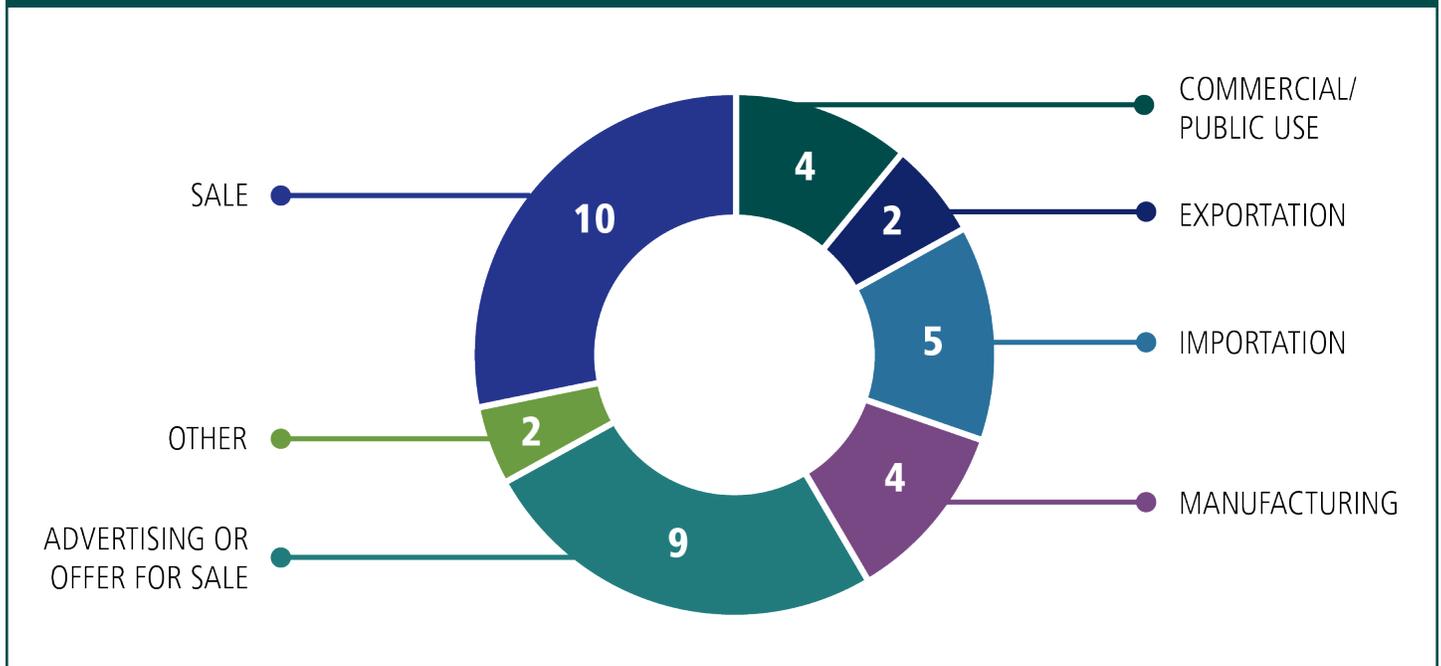


Figure 2: U.S. Patent and Trademark Office Report on Intellectual Property Rights²

² USPTO 2021

Presenting Data with Context

Once you have your analysis and your data visualization, the story will still need to be communicated to your stakeholders. Unfortunately, one size does not fit all — presentations must be tailored for their audience. Everything from terminology and technical knowledge to length and tone will be quite different when speaking to airplane mechanics versus a group of comptrollers.

In either case, you would need to understand how the data's story will impact your audience. What are the most important parts that need to be communicated to them? Will this information necessitate a change in what they do or how they do it? How can the information best be presented so that the audience leaves with a clear understanding?

Seeing data at the 10,000-foot level is much different than seeing it at ground zero. It is key that the story of the data is understood by the stakeholders in their language so that they can fully absorb it and use it to guide their decisions.

The Proven Value of Data-Fluent Case Management

One of the federal agencies that has achieved data fluency has a large analytics unit. It is essential for their strategic planning, key performance indicators, measurements, and case management assignments. To streamline processes, data visualizations and statistics are made available to the public, which supports its innovation and growth.

Many data-literate agencies track case workloads, backlogs, and other traditional metrics. Like the one in this example, some data-fluent agencies create algorithms to evaluate employee knowledge and skill sets, thereby identifying the best manager for each case. This next-level use of data enables agencies to define their workforce requirements and caseloads based upon skills and expertise metrics. They know what skills they need for future budget submissions and can more efficiently assign employees from various units.⁵

Six Reasons to Make Your Agency's Data Open and Accessible

1 Save time and money responding to Freedom of Information Act (FOIA) requests.

4 Empower employees to make better-informed, data-driven decisions.

2 Avoid duplicative internal research.

5 Enjoy positive attention from the public, media, and other agencies.

3 Discover complementary datasets held by other agencies.

6 Generate revenue and create new jobs in the private sector.

⁵ Business case for open data 2022

The Importance of Understanding What’s Behind the Analysis

Achieving data fluency will help your analysts and your entire agency be more effective and efficient. When your analysts are fluent in the data, they can prompt you to ask the questions that will fully reveal the story of the data, such as, “Why is the data showing these results?” or “Why did that occur?” or “What is causing this shift?”

Management Concepts is here to help you achieve data fluency so that every analytical mission your agency undertakes will be successful. The greatest challenge will be creating enough opportunities for your employees to develop data-analysis fluency. The more they continue to strive for this goal, the better they will understand the value of the data. To gain more traction and momentum within an organization, it helps tremendously to have a high-ranking data champion supporting these efforts.

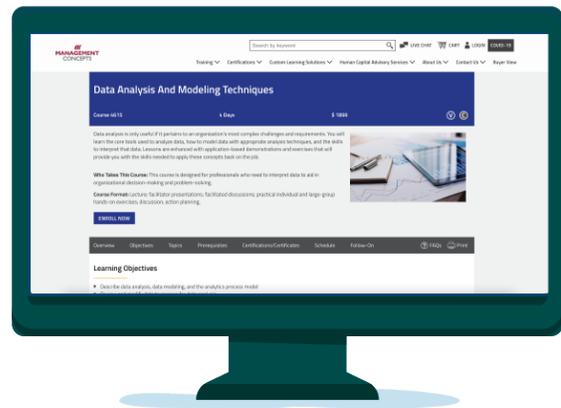
Proof That Your Agency Is Striving toward Data Fluency

- Analytics is a core part of management analyst and program manager position descriptions and performance plans
- There is an Analytics unit that has a pivotal role in strategic planning and measures
- The agency demonstrates a cohesive commitment to ensuring employees have analytic skills that promote a higher order of communication about decisions, including techniques such as advanced visualization and data modeling
- The information and tracking systems are integrated with data and analytics capabilities employed in decision-making and routine mission accomplishment
- Decision-making has progressed from predictive analytics to prescriptive analytics

If you are not there yet, know that you are not alone. Making this transition is not simple, but it is worth doing. The amount of data that the federal government collects is enormous. We understand that data is becoming more integral to decision-making with every passing day and needs to be used most effectively.

Management Concepts Offerings

Get started harnessing the power of data in your federal agency. Anyone can benefit, from top-level executives to mailroom clerks, and from marketing to accounting. It seems scary at first, but we’ll be here to guide you every step of the way. We offer an array of learning solutions that can help all federal government employees understand and apply everything from **data analysis** to **presentation skills**, and from **coaching** staff to teaching basic **business terminology** in **Analytics**, **Business Analysis for Project & Program Management**, and **Financial Management**, as well as **Custom Learning Solutions**.



About the Authors

Kevin P Kelly, PhD, MBA, ChE is an Analytics instructor for Management Concepts and an expert facilitator specializing in making learning fun. He has an extensive history of delivering spot-on analytical training solutions teaching any size team from small, private firms to multibillion-dollar corporations.

Having earned a PhD in Instructional Design & Technology from Liberty University, Dr. Kelly shares his passion of learning by delivering key skill sets and knowledge to his students. Also holding an MBA in Finance from Tulane University and a Bachelor of Science degree in Chemical Engineering from Purdue University, he can communicate in both the financial world of Wall Street and the petrochemical plants of Texas.

Living within the world of analytics for over 30 years, Dr. Kelly has created training sessions uniquely designed for clients. He envelops operational intricacies in his courses and places them into easy-to-understand lessons with repeatable processes.

Dr. Kelly provides a perfect mixture of technical knowledge, practical experience, and fun classroom interaction to reinforce solid takeaways and memorable application upon class completion.

Steven Placek is a Management Concepts instructor in the field of Analytics. He is a retired senior federal employee, Army Officer, and a former Associate Professor at the United States Military Academy at West Point.

The agency-related examples and anecdotes mentioned within this eBook are taken from Placek's first-hand knowledge and observations as a former senior-level employee serving in various positions in program management, management analysis, as a Director of Administration, and instructor in the federal sector.



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