



How to Make Quick Work of New Problems: **An FAQ**

Data is essential to driving the response to any crisis. During the COVID-19 pandemic, many agencies found themselves scrambling to spin up new services in response to rapidly changing situations. They needed to develop applications to support data-driven decision-making, provide services online for constituents, and exchange sensitive information quickly and securely.

Fortunately, low-code development tools, machine learning, natural language processing, blockchain and related capabilities can be brought together to make rapid response a standard operating procedure, not a temporary work-around.

Sound daunting? It doesn't have to be. GovLoop and Oracle created this worksheet to tackle some of the frequently asked questions that people have.

How can I analyze data when I'm no data scientist?

Technology should not be a barrier to data-driven decision-making. To make analytics more accessible, two capabilities are key: Augmented analytics and natural language processing.

First, look for analytics capabilities with embedded machine learning. Machine learning can guide your work, identifying patterns and delivering insights that you might not think to look for on your own. The technology can even help with visualizing data and generating reports.

Also, look for natural language processing, which lets you dig into the data by asking questions, not writing queries. This capability enables you to focus on getting insights, not on the technology.

What if I need answers quickly but I'm not at my computer?

In today's data-driven environment, analytics is too important to be limited to an office computer. When people are away from their desks, their device of choice, more often than not, is the mobile phone. Look for a cloud-based analytics platform that extends key capabilities to the phone. For example, you should be able to develop a workbook and have it display easily on either a PC or phone without losing functionality or compromising on visualizations.

This is another area where natural language processing can shine. Rather than getting bogged down typing out commands on the phone keypad, you can talk to a chatbot, which then interacts with the backend system. It makes anywhere/anytime access a reality.

How do I make sense of data when I don't know what I'm looking for?

Machine learning is critical here, too. Let's say you have a given dataset to analyze, but no clear idea of where to begin. As noted above, machine learning is great at finding patterns. But that means it's also great at finding anomalies to the prevailing patterns – which might be good places to begin analysis.

And with machine learning, the operative term is learning. The longer you use the technology, the more it understands the way that you interact with data, enabling it to augment your data and suggest options for enriching it. For example, it might prompt you to include elements such as time variations, population, geography and more. Machine learning and you get smarter together.

How do I embed analytics in an application or website?

This is how you bring analytics alive for people who aren't looking to read a report but to do their own analysis. This is how you extend analytics to the point of need.

This is possible through application programming interfaces, or APIs, which can pull in data from multiple sources, whether that's from an internal database or application or an external data source. The key is having an analytics solution that automatically cleanses and rationalizes that data behind the scenes, so that the user doesn't need to worry about all that.

By using APIs and a robust analytic solution, such functionality can be added with a minimum of fuss in a matter of minutes.

How can I share those insights with other non-data-scientists?

Visualization is key to enabling non-data experts to make sense of analytics. Traditionally, the problem was that visualization itself required expertise that most people do not possess. But that's no longer a hurdle with today's augmented analytics.

With machine learning, a system can provide automated chart and graph recommendations, making it easy for anyone to quickly build compelling, visual stories that best represent the data. Not only that, it can automatically generate reports and presentations, saving you hours of work. You can even provide natural language-based interpretation of a report, enabling readers to ask questions about what they are seeing.

Okay, let's say I can write code, but I need speed. What can I do?

Low-code development has emerged as an important trend in recent years. The idea of using tools with an intuitive graphical user interface to build applications, rather than coding by hand, appeals to agencies looking to accelerate the delivery of new applications.

But there's a catch: With many tools, the resulting applications just don't scale. You need a platform that can handle the simplest application — e.g., putting a spreadsheet online — to mission-critical enterprise apps that tap into an enterprise database.

What you need is an autonomous database that uses machine learning to handle all the usual database upkeep and tuning — such as configuration, tuning, backup, patching, encryption and more — and that can scale quickly as your requirements change.

What do I need to know about blockchain?

Blockchain, which came out of the creation of bitcoin, might be described as a platform of shared trust. When you use blockchain to secure transactions or data sharing, you can be sure that no one has intercepted or tampered with the information. It provides a shared single source of truth where such trust is essential. For example, during the last year, health agencies have used blockchain to transmit COVID-19 test results.

But blockchain can be very resource intensive, in terms of compute, memory, storage and network requirements. You need a blockchain platform that provides full functionality and that maintains performance even as the system scales. Additionally, look for a platform based on open standards, which makes it easier to integrate with other blockchain platforms.

How can I develop applications that make analytics easier for other non-data-scientists?

As noted above, natural language processing is an invaluable tool for making it easier for people to interact with applications and systems. Think of it as a conversational interface. For example, Oracle has piloted its use in helping veterans find a doctor in their area, make an appointment and navigate other aspects of the medical system — all from their phone.

But rather than build such capabilities from scratch, you can leverage a digital assistant platform. The platform should work across multiple platforms, including web, mobile, smart speakers and messaging platforms. And to accelerate development, make sure it includes visual development tools, supervised self-learning and built-in bot analytics.

How can Oracle help?

Oracle helps fast-moving agencies rapidly meet new and evolving mission needs. Its solutions provide non-technical workers with ways to link data easily and securely across multiple sources and then visualize and act on them in meaningful ways is critical to any rapid response mechanism — across any agency.

Key offerings include:

- ▶ Oracle Analytics Cloud and Oracle Analytics Server
- ▶ Oracle Application Express (APEX)
- ▶ Oracle Autonomous Database
- ▶ Oracle Blockchain Platform
- ▶ Oracle Digital Assistant Platform

The Oracle logo is displayed in a bold, red, sans-serif font.

To learn more, view this 3-minute video: [Oracle Analytics Demonstration](#)