



7 best practices for mobile business intelligence

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Mobile business intelligence

Mobile business intelligence puts data right into where the work is getting done—hallway chats, site visits, and conversations with customers and partners. The potential benefits of this are huge. In a way, mobile BI is the realization of the promise of BI: the ability to make decisions with data, wherever you are.

Furthermore, mobile BI not only expands the “where,” but the “who.” It offers the possibility of finally providing access to data throughout the organization to salespeople, warehouse managers, service reps, and others who rarely sit at a computer. By providing rich, targeted analytics on people’s go-to devices, you get data into the hands of those who seek to understand the context of their business.

Mobile business intelligence elevates and extends aspects of traditional business intelligence. Analytics can be accessed and edited from more devices (phones and tablets, in addition to laptops) and serve more targeted needs (find data on this customer in this location, not all customers). Most of all, the state of mind of the person seeking answers is different. While at a desk, they may be exploring and analyzing. Out in the world on a mobile device, chances are they want to find an answer fast, then act on it. They expect an experience that supports their flow so they don’t waste time getting their answer.

As BI evolves to embrace mobile, take these **seven best practices** into account for doing business intelligence well on any device:

1. Avoid dashboard proliferation.
2. Use visualization best practices.
3. Consider an audience on the go.
4. Take advantage of context.
5. Leverage mobile’s strength as a social device.
6. Keep it secure and integrated.
7. Offer offline access.

Avoid dashboard proliferation.

Mobile BI is about more than taking your dashboards and squashing them into a phone. The trick is to adapt, not recreate the wheel. Ultimately, you'll want to use many of the same dashboards on the go and at your desk in slightly different ways.

Avoid the trap of dashboard proliferation. Don't recreate each of your core dashboards for every different device. This may seem easy at first, but ultimately will require many hours in content development and managing the data pipeline. Rather, take an “author-once, distribute everywhere” approach: plan to adapt existing dashboards, and make them available on all relevant devices.

To adopt this best practice, look for a business intelligence solution that supports author-once, distribute everywhere dashboards. For example, the software must detect different devices and provide the best layout for different device types. If your solution requires you to build a new dashboard—and have a new data pipeline—for every device, you'll spend a lot of time fixing the inevitable discrepancies between the many different sources of the truth. By adapting, rather than recreating your dashboards, you can save yourself a lot of time and maintenance headaches.

To learn more,
read our blog
post on mobile
dashboard **design**.



So how do you adapt, rather than re-build, your dashboards for mobile? Use visualization best practices and consider a modern audience.

Use visualization best practices.

The display size of tablets, while more generous than a phone, is smaller than what people have at their desk. Phones have even less screen real estate. This difference in form factor has a big effect on how people view and interact with their data.

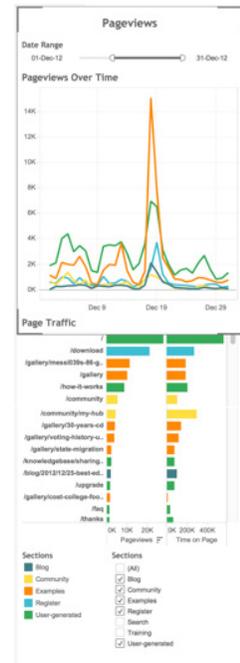
It's a question of using your space well. There is plenty of room to show off data on a smaller screen, if you know what rules of thumb to abide by.

Here are some tips for publishing content in the constrained space of a tablet:

1. Put your most important view at the top left. It's where your users' eyes will naturally start.
2. Limit your dashboard to 2-4 main views. Overcrowding the screen will make the dashboard much less usable on the go.
3. Be stingy with legends and filters. Eliminate all but the most necessary visualization and dashboard objects. For instance, do you really need a color legend if your colors are labeled within the view?
4. Bigger is better. Use large marks to make sure people can select them with their fingers. Use titles so that users have additional context.

For your mobile layouts, try these tips:

1. If your primary user will be on a phone, stack your views vertically one after another, so that each view is usable.
2. Fit your first dashboard to the first screen (either portrait or landscape). Let subsequent views scroll down, rather than making a user scroll across. Let the title of the next view show at the bottom of the first screen, to let the user know there is more content below the fold.
3. Put most of your filters and legends at the very bottom of your viz. If there is one critical filter that most users need, put it under the title at the top, so they see it first.



With an author-once solution, interactivity is optimized for touch automatically. You should not have to author a separate version of each dashboard for mobile use.

To learn more, watch a [webinar on visualization best practices](#)

The phone version has been simplified to show one view after another. The most important view, Pageviews over time, is large and at the top. The date filter is also at the top. The title of the next view shows right at the bottom of the screen (by the grey box). The scatterplot has been removed completely in consideration of the mobile user's needs.

Consider an audience on the go.

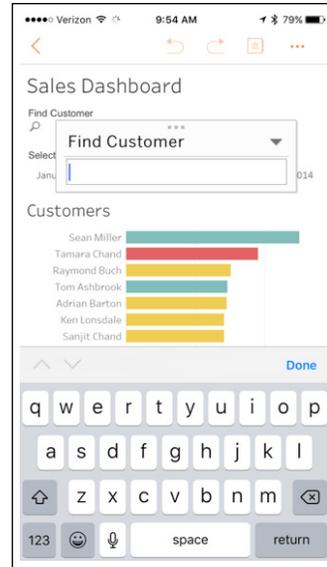
Another major difference between publishing analytics for mobile versus desktop use is that you can't assume people always have time to dig in. Your users will most likely be browsing for high-level takeaways or trying to find a very specific piece of information for immediate action.

Ideally you're working with an analytics platform vendor that thinks through the mobile user experience from the ground up. But you can also tailor your content for mobile. As you evaluate your dashboards with mobile users in mind, consider these changes:

1. **Allow drill-down:** Your dashboards should be launching-off points. Make sure your tool provides the ability to drill down into different slices of data so people can follow their natural trains of thought. For example, a report on productivity and customer satisfaction across call centers should allow you to drill into shifts and employees at a specific call center. Otherwise, you won't be able to diagnose problems while doing call center reviews.

2. Offer filters appropriate to on-the-go employees:

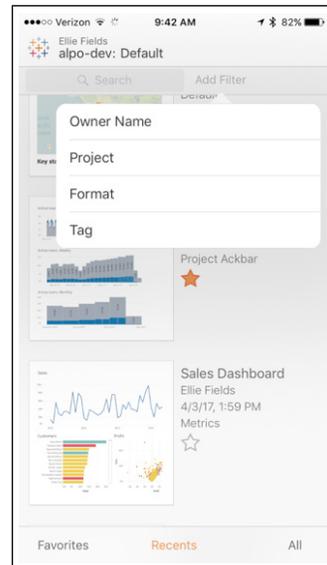
Authoring a view for a support person who will be visiting customers? Add a customer search filter instead of forcing him to browse by industry or location to find a customer. But don't overdo it: Providing exactly the right set of filters, no more and no less, will help your employees make better use of mobile BI.



Offer filters appropriate to a person's task. For example, a salesperson might need to quickly find a particular customer.

3. Provide content search:

Getting the right information in a dashboard is important, but none of that matters unless you can find the right dashboard in the first place. Most organizations have dozens, if not hundreds of reports. Allow them to store their most often-used dashboards front and center, and show them recent content. Finally, make it easy for users to search for content by project, author, and other facets, so they can find what they need.



Where was that dashboard again? Fast, effective content search is a critical part of mobile BI.

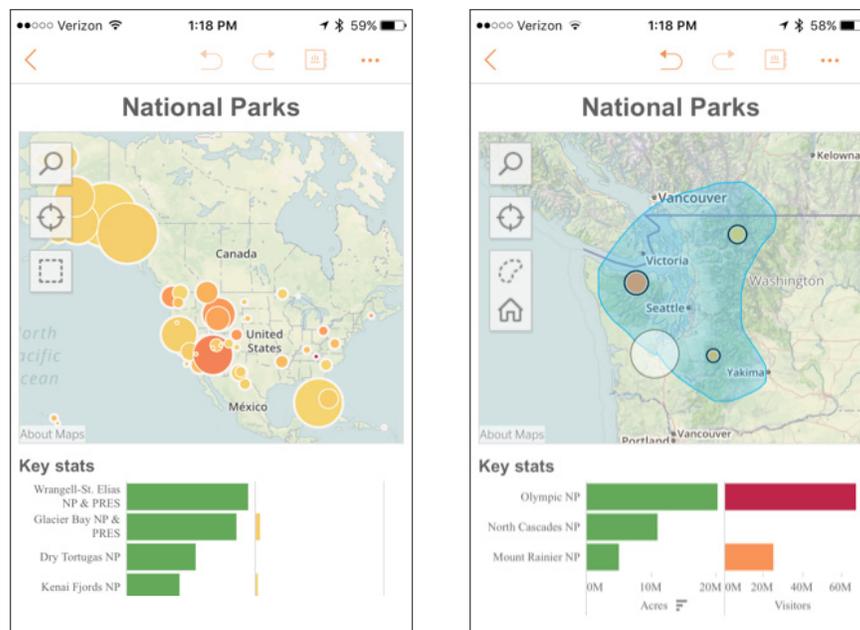
To discover potentially valuable new ways of presenting information for your consumers, ask them what information is hardest to get and when they need it. Follow one person for a day and observe her as she goes through her regular routine. Notice the times when she needs information and see how much information she's able to get and how fast it is to get it.

Finally, consider whether your users will need training: If the mobile experience is not usable, it will require time to learn. If users must learn a brand new interaction paradigm to engage with your mobile content, they'll use it less. Prioritize an intuitive, familiar interface.

Take advantage of context.

Many times people look at mobile as a degraded browser experience—a smaller screen, a more distracted user. But that is ignoring the possibilities. When your user is out in the world, doing work they wouldn't do at a desk, you have something you wouldn't have in an office: context.

The first and most helpful piece of context is location. Using the GPS in your smartphone can let you find what you need faster: For example, managers at large retail chains want to walk into a store and have a dashboard filtered automatically to that store, based on GPS data. Read more [here](#), and see a demo of location filtering.



Location controls in data can help you use context to find what you need faster.

But location isn't the only way to get context with mobile. Benedict Evans talks about the sensor we all have in our smartphones, the camera: "The smartphone's image sensor, in particular, is becoming a universal input, and a universal sensor." The camera on your phone can be used to read barcodes or QR codes. Down the road, image detection may be an input that helps you select items in your data.

Leverage mobile's strength as a social device.

Phones and tablets are both social devices, although in very different ways. A phone is fundamentally a personal communication device. Your phone has apps to text, to call, and to engage with professional work—Slack, Chatter, and other operational applications. Typically, when someone works with data on the road, they're focused on accomplishing a task. Connecting analytics to the native communication capabilities of the device can make taking the next step easier: for example, texting an image of a dashboard to a colleague with a note.

Tablets are social in a special way: They are convenient to carry around; they start up instantly; and they are easy to hand back and forth. Sales people in particular have adopted mobile analytics as a way to collaborate with data when a wall display is not available. Salespeople use tablets in restaurants while talking with the owner, and at hospitals selling pharmaceuticals to doctors. Using data helps them move from a selling conversation to a consulting one.

To get social with mobile data,

1. Allow commenting on views so that questions and observations aren't lost.
2. Provide interactive filtering, sorting, panning, and zooming so that users can walk through data live over the course of a meeting.
3. Make sure your solution is fast enough that it can keep up with the pace of a discussion. People will move ahead without the necessary information if the dashboard fails to load quickly.
4. Consider whether you need offline capabilities, even a simple feature like recently updated snapshots of your data.



Commenting allows for broad engagement with key analytics.

Taking advantage of the opportunities for collaboration from mobile devices means you not only get an answer, you can take action.

Keep it secure and integrated.

People hate logging in on mobile devices. It's frustrating and takes their attention from whatever they're doing in the moment (that is probably promoting their need for data). But companies need to keep their data secure and make sure lost devices don't compromise company confidential information. What to do? There are several approaches to keeping mobile data secure while keeping users happy:

1. Use a Mobile Device Management tool like Airwatch, MobileIron, Good, or Citrix. These systems securely distribute apps, data, and configuration to verified users.

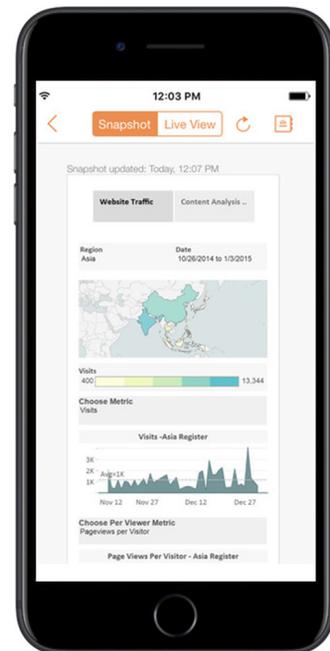
They can also:

2. Wipe certain apps and data if a device is lost.
3. Direct users to specific servers, to make sign-in easier.
4. Keep users up to date with recent versions of the app.
5. Make sure your mobile app provider uses secure network connections when it requests data from the server.
6. Make sure your mobile analytics apps encrypt data at rest.
7. Use a Single Sign On (SSO) system like SAML to make it easier for customers to sign into their devices and stay signed-in in a secure fashion.

Read our blog post to learn **how to manage mobile deployments** with AirWatch or MobileIron.

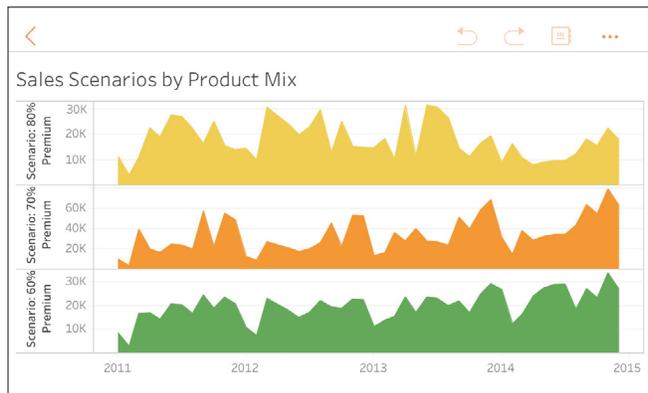
Offer offline access.

Phone and wireless networks may not be in all the places where you need data. Offline access is key to working while off network, or on a slow network. The simplest possible solution to offline access is to take snapshots of your most-used dashboards. Snapshots should be able to update automatically in the background, so that every time you go offline, you simply have a recent snapshot of your dashboards, without having to remember to refresh them yourself.



The limitations of devices mean that it's hard to take a lot of data onto a mobile device for more advanced analytics. But coming improvements in device memory and mobile databases will improve the situation over time. Consider a strategy where you can take advantage of new capabilities without having to do your own custom development every time you want to change. If you're working with a mobile analytics vendor that is making lots of investments, let them do the hard work while you just stay current with upgrades.

You can anticipate offline scenarios by making sure that all relevant information mobile workers might need is in the main field of view. Do they need to see various scenarios of sales and cost, and if so, can you make that visible in the dashboard?



Snapshots can be a fast and easy way to take data offline. If you use this approach, author views so that critical information is visible, and try to use some form of automatic refresh so that users don't forget to get the latest snapshot.

Conclusion

Mobile business intelligence may finally fulfill the promise of a 30-year old industry: to provide information when and where it's needed. But to make the most of mobile, you need a strategy that leverages your existing BI assets while adapting them for a mobile environment.

Each of these best practices is critical to the success of a mobile business intelligence project. Together, they will help you move thoughtfully into the mobile age. But keep your eyes open: Collaboration, analytics, and security will continue to evolve as we unchain business intelligence from the desk.

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Resources

[Tableau mobile](#)

[Tableau mobile help](#)

[Visual Analysis Best Practices: A Guidebook](#)

