BLUEPRINT TO MODERNIZE ANALYTICS

A Step-by-Step Guide to Enhancing Your BI Offerings

Logi
ANALYTICS

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INTRODUCTION

Every product team has that one frustrating feature: One they've planned to add to their application, but it keeps getting pushed off and fails to make every release.

If this sounds familiar, you're not alone—scope creep is real.

Often times, modernizing an outdated analytics offering becomes one of those constantly pushed-off features. Especially if you haven't felt the pain of churning customers or falling revenue just yet, it's easy to push these enhancements off.

As the value of modern in-app analytics becomes clearer, more and more companies are making analytics a priority before it becomes a problem. According to the 2018 State of Embedded Analytics report, 96 % of commercial software and SaaS providers say embedded analytics helped them increase overall revenue. What's more, 68% say they're able to charge more for their products because of the value of embedded analytics.

The longer you wait to modernize your application's analytics, the longer it will take for you to realize this value–and the harder you'll eventually feel the pain of lost customers and missed revenue.

The Unique Challenge of Modernizing Analytics

At Logi Analytics, we've worked with over 2,100 software companies, and we often see features immediately go from "nice to have" to "needed yesterday." This problem is especially pronounced in organizations that are still using outdated business intelligence solutions like Crystal Reports or SQL Server Reporting Services. Even companies that have built their own homegrown analytics using a development environment like Visual Studio have found it difficult to keep up with this rapidly changing market.

Often, updating business intelligence is more complicated than just a lack of time and resources: After working with hundreds of OEM customers, we've seen many that not only lacked resources, but who also didn't put a plan in place—leaving their analytics projects open to feature creep and eventually failure. In other cases, software companies have been surprised at how uniquely complicated it was to improve their analytics. "Unlike other product enhancements, analytics modernization projects come with their own unique sets of challenges," says Rebecca Gow, senior solutions architect at Logi.

We used this expertise to perfect a project plan for companies modernizing their analytics. “In my experience working on blueprints with customers, I’ve seen it become a very effective tool to set up analytics projects for success,” says Gow.

Our blueprint methodology is useful in a few key scenarios:

1. **Launching an enterprise-wide analytics initiative.**
   If you’re beginning a push to become a more data-driven organization, a blueprint can help define your vision for enterprise BI.

2. **Introducing analytics into a current product offering.**
   Do you want to embed analytics in a product for the first time? Establishing a blueprint will help you understand what that should look like.

3. **Rolling out the next phase of an analytics project.**
   If you’re planning the next phase of your application or thinking about the next generation of your analytics offering, use a blueprint to determine how to get where you want to go.

4. **Upgrading a current analytics offering.**
   Are limitations or poor performance in your current product affecting user adoption or customer churn? A blueprint will guide you to properly redesign and fix these issues.

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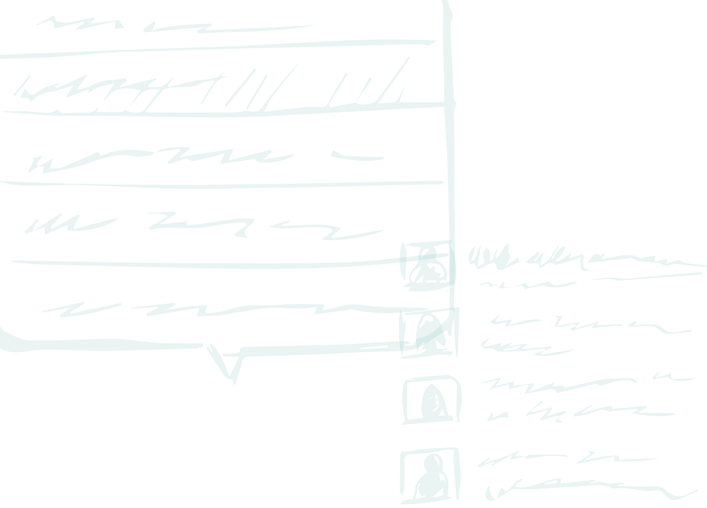
Our blueprint helps you define your new solution, plot out how to get there, and determine what you’ll need in terms of time and resources.



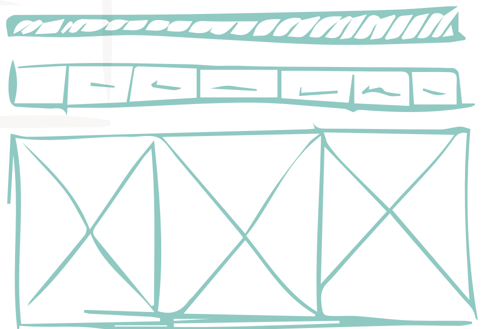
We'll focus on scenarios that involve updating existing analytics offerings in this ebook, as we walk through the four phases to a successful BI blueprint:

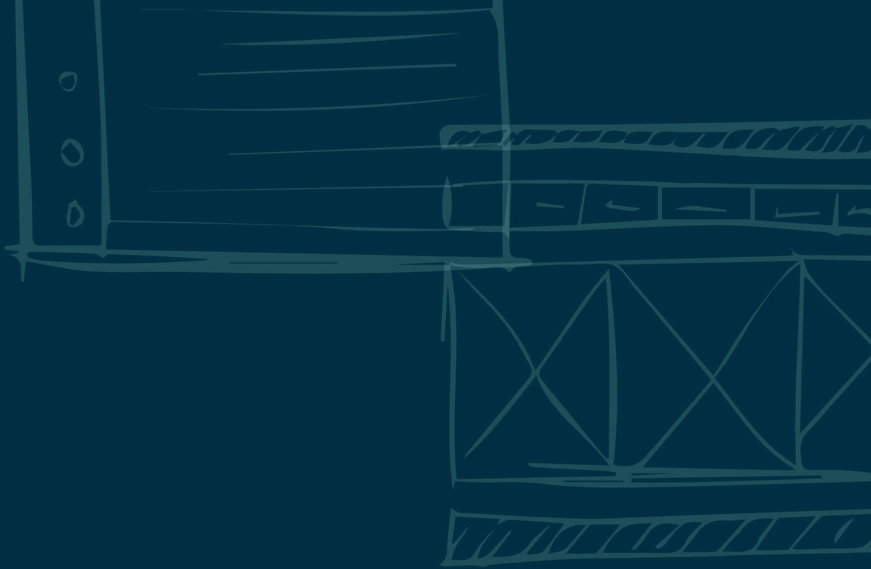
- **Phase 1: Talk to everyone involved.**
  What do your customers and users need to do their jobs?

- **Phase 2: Define the solution.**
  What does it need to do and how does it need to look?

- **Phase 3: Structure your project.**
  How does your analytics project fit into your software development process and current product offering?

- **Phase 4: Plan for deployment and beyond.**
  How will you update and modernize your analytics offering in the future?





What Will Your Blueprint Look Like?

At the end of this process, you'll have a blueprint that will deliver:

Requirements Analysis

Detailed analysis of the problems and needs driving the project, the goals of the solution, and its target audience

Solution

Architecture and its components (data sources, security considerations, integration points, and conceptual UI designs)

Implementation Plan

Delivery plan including milestones, development schedule, and resourcing

LET'S GET STARTED!

PHASE 1

Talk to Those Involved

TALKING TO BOTH YOUR END USERS AND STAKEHOLDERS IS CRUCIAL TO ANALYTICS SUCCESS.

“In getting to know your audience, you’re ultimately looking for how they use information—or how they’re not able to use information,” says Gow. Who’s actually going to be using the analytics? In what context will they need the information? How do they prefer to work? And just as important—who are the project’s stakeholders? Who could approve or veto each stage of your project?

Identifying Project Stakeholders

Stakeholders are just as important as users. Anyone who is sponsoring this analytics project will be impacted by the finished product—whether they’ll use it themselves or simply support the people who will.

Key stakeholders may include:

- **Technical Subject**: Matter Experts (SMEs): These may be members of IT, architects, database administrators, development operations, and the QA team. In your interviews with them, focus on learning about the current technical architecture and how a new analytics platform will fit into that.

- **Business SMEs:** You’ll want to talk to anyone with deep knowledge of the audience needing this solution. They may not ultimately use your product, but they could have institutional knowledge of the information everyone uses.

- **Project Sponsors:** This includes not only official sponsors—such as leaders from the business strategy team or IT – but also people from whom you’ll need resources to launch the product successfully, such as members of operations. You need to get their buy-in on the solution as a whole and gather support for the resources that you’ll need from their teams.

IDENTIFYING YOUR END USERS

If you have a trusted group of customers who will give valuable feedback on your product, start with them. These users can often be found in user groups related to your product, community forums, beta test groups, or on product advisory councils.

What if you're launching a brand new product and don't have any users yet? Tap into groups of prospective users – those who you expect may want to use your product. You may find these prospects in existing communities on LinkedIn or online forums, or you might source them from an industry network or trade show.

When you find your users, your interviews with them will be different than your conversations with support roles and technical representatives. Rather than learning about architecture or technical specs, you'll want to find out what information your users need and how they like to access it.

"Often customers will tell me that we don't need to talk to the users since they don't really know what they want," says Gow. "But I've found that it really depends on how you interview your users. They may have an idea of what they want – they just might have trouble translating that into a solution."

It's worth the time to talk to users and draw out what they want so you can translate that into your final product.

Start by identifying and prioritizing your end users. To do this, ask yourself who needs the solution, why they need it, and how urgent that need is. We suggest using this matrix and filling in each sections, scoring the urgency on a scale from one to 10, and adding columns and rows as needed.

	USER: Sales	USER: Marketing	USER: Operations
GOAL 1: Become data driven	URGENCY LEVEL: 8	URGENCY LEVEL: 3	URGENCY LEVEL: 6
GOAL 2: Open up access to data	URGENCY LEVEL: 5	URGENCY LEVEL: 7	URGENCY LEVEL: 4

This last question is particularly important. In some cases, there may be eight or nine different personas who will eventually be on board—but two or three of them may be in panic mode, desperate for the solution. Those are the people you want to talk to first. If you're on a tight timeline, you may even consider tabling other departments for later phases.

WHO ARE YOUR USER PERSONAS?

Once you're familiar with your end users, break them down into personas to identify who you'll interview. At a basic level, each persona will be a %age of your users who share common behaviors and activities.

Start by looking at distinct teams or groups of users: company departments, teams by production line on a manufacturing floor, or unique roles. These often end up being your user personas by default.

Another important factor to bear in mind is that there are different types of usage. Think about how people are currently accessing and analyzing their data. Do you have power users who want self-service options, where they can access and analyze the data themselves however they want? Are you dealing with administrators who control data inputs?

Each of your personas will need a varying degree of analytics capabilities. And keep in mind that their needs may change. Analytics tends to be very personal, so while you may think you understand your users today, their behavior may change dramatically once they begin using your BI solution.

How well do you know your analytics users? TAKE THE QUIZ!

TIP

Remember that roles may be different than personas. For example, your persona might be a sales user, but within that persona group you could have salespeople with different roles.

PLANNING YOUR INTERVIEW SCHEDULE

Now that you've identified your end users and grouped them into personas, it's time to gather people who fit these personas to interview. It's in these interviews where you'll really get the information you need.

How you structure your interview process will affect the quality of information you gather. Start with establishing a timeline.

In the sample agenda shown here, you would kick things off with a project overview with your project sponsors and stakeholders. This is when you review what prompted this project, set goals, and discuss any constraints or concerns.

Next, a session with each of your personas will start guiding the needs for the end product. These sessions should be at least an hour each—ideally two hours to get the most valuable feedback. This can be accomplished in one day, but you may need to push it to two days if you have more than a couple personas.

Finally, you'll talk to the technical experts. Bring the information from your user interviews to these technical discussions, along with your early thoughts on what the solution may look like.

After these technical meetings, take a half day or full day to gather your initial findings and thoughts. This is not your final blueprint, but should give a high-level look at the architecture and project planning components. At this point, you just want to set expectations and get initial feedback and signoff on the project direction.

After the interview process, dedicate an additional two weeks to an in-depth review of your interview findings and establish the full project plan.

SAMPLE AGENDA

DAY 1	SESSION	PARTICIPANTS
9-11 AM	PROJECT OVERVIEW	PROJECT OWNER & SPONSORS
11 AM-5 PM	USER INTERVIEWS	2-3 PEOPLE FROM EACH USER GROUP

DAY 2	SESSION	PARTICIPANTS
9-11 AM	TECHNICAL INTERVIEWS	IT, DEVOPS, TECHNICAL SMES
3-4 PM	INITIAL FINDINGS	PROJECT OWNER & SPONSORS

PERFECTING YOUR INTERVIEW TECHNIQUE

The kinds of questions you ask your end users will help draw out their vision and needs. Then it’s up to you to translate it into a solution.

Remember, you’re working with folks who may only have one or two hours to spend with you, so make sure you’re getting as much information as you can. Record your interviews using your phone, a digital recorder, or by setting up a shared web meeting and recording it. Also be sure to take notes by hand or, if it’s faster for you, on a laptop or tablet. Use whatever methods feel most comfortable to you – just be sure to take lots of notes, likely more than you think you’ll need.

Follow these tips for successful interviews:

1. **Keep an open mind.**
   Don’t go into the project “knowing” what you need to deliver. You might miss critical information, dismiss a great idea, or overlook a change in course. This can be especially difficult when software solution experts and product professionals are the ones conducting the interviews.

   If you’re one of these leaders, you may be used to coming up with answers and having an idea up front. Be careful to set that aside for these sessions. Always be on the lookout for information that will help you get better user adoption and ensure the success of your analytics application.

2. **Ask open-ended questions.**
   Give users the chance to answer broadly, and follow answers down lines of inquiry as they come up. This empowers the people you’re asking to give you more information as they fill in the gaps and come up with ideas. And don’t be afraid of silence; often, people will volunteer more information during short pauses.

3. **Limit your audience.**
   Don’t get everyone from the team in the same room. You’ll get better, clearer results by speaking with two or three representatives of each persona group or role at a time.

SAMPLE INTERVIEW QUESTIONS

When interviewing your end users, Gow recommends keeping your language as broad as possible. "Avoid technical terms, since you might be talking to people in all kinds of areas of business—especially if your customer base spans across industries," she says.

If you're not sure where to start, build off of these sample questions. They'll open up answers that let you dive into more detail.

1. Can you describe your role for me? What do you do here?

2. What does an average hour or week on the job look like for you? How do you use analytics and data throughout your days and weeks? (Note: Frequency can be important in this question. We all use data at different times and for different reasons.)

3. Who do you interact with most often to get the data you need? What information do they need from you and what do you need from them?

4. What analytics systems, sources, or reports do you go to for information? Which do you submit information into?

5. What metrics do you monitor? How do you measure performance in what you do? How is your performance measured?

6. What are some challenges or frustrations you experience in the ways you access or analyze data today? (Note: This question may get you more than you're looking for – but it can also uncover some interesting needs for data and analytics.)

TIP

When an interview is going well, don't be afraid to go off script. In fact, given the opportunity, users may offer even more information and guide the conversation in interesting and insightful directions.

PHASE 2

Define the Solution

Now that you've talked to users and stakeholders, it's time to translate all their needs and wants into an analytics solution. Of course, that's easier said than done.

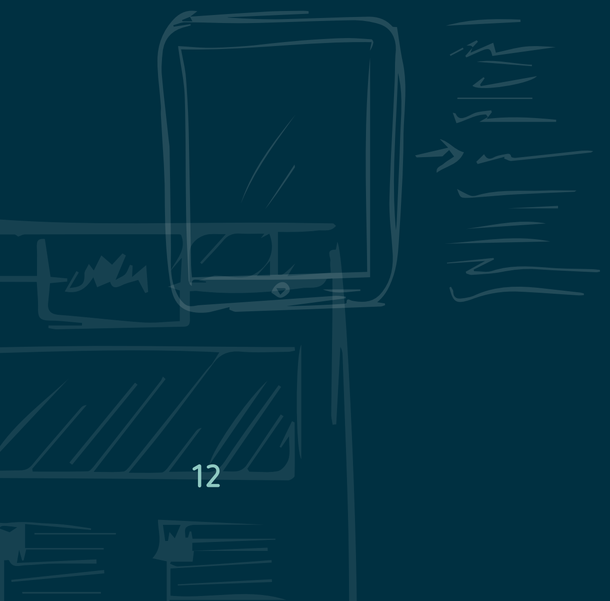
Start by reviewing your notes for answers to your most important questions. This information will be your guide for determining your end solution.

As you review, ask yourself:

- What metrics and key insights do each of your personas use? Are there trends? Interesting clusters of outlying requests?
- What databases and systems do they access today for data? What servers are these on?
- What are and aren't they allowed to access? (Make sure to confirm these rules with business leads and SMEs)
- What do they like today? What may be worth keeping in the new solution? You don't want to fix anything that isn't broken.
- What are their frustrations and obstacles? Are they dealing with slow-performing reports? Roadblocks from having to request data from others? Undefined KPIs? Your solution should aim to solve these issues.

Look for recurring themes and threads that will help you define your solution. These elements will become the foundation of your BI solution.

Explore more tips for conducting effective user interviews in the ebook: THE ESSENTIAL GUIDE TO BUILDING ANALYTIC APPLICATIONS.



COMPONENTS OF A MODERN BI SOLUTION

“Once you’ve boiled all this information down and pulled out the relevant points, you’ll find that you have the information you need to detail the components of your BI solution,” says Gow. These components include:

- **Data:** Consider any data sources your audience uses today—or any that they need. This is about more than databases and spreadsheets. It could be relational stores, or even paper off of a clipboard. If you don’t already know where these things live, now is the time to find out. Build a list of all these sources so you can go to your technical discussions for definitions.

- **User Interface:** People ignore design that ignores people—which is why UI is critical to user adoption. In a BI context, consider what your solution will look and feel like. Is it a dashboard? Should it appear as a chart, a gauge, or a table? How will users interact with it? In the next section, we’ll talk through how you can (and should) mock up the UI to make sure your final solution has the best effect.

- **Security Framework:** This is where you define who can access the product and what they’ll be allowed to see. Your persona interviews will help guide this, but be sure to confirm with your business leads and SMEs before finalizing.

- **Integration:** This component is critical if you’re updating analytics or adding new BI capabilities that are embedded in another product or application. Consider how your analytics will interact with the rest of the app: Do you have to fit into custom security frameworks? How will you deal with any other systems that may not be data systems?

- **Infrastructure:** Now is the time to determine whether you need to set up a new infrastructure for your updated analytics solution. On what servers and systems does everything you need currently live? What might you need for your new or enhanced solution?

TIP

Detailed capacity planning—which is when you consider everything that you’ll need, how much it will cost, and so on—probably isn’t practical at this stage. But you’ll want to lay the groundwork now.

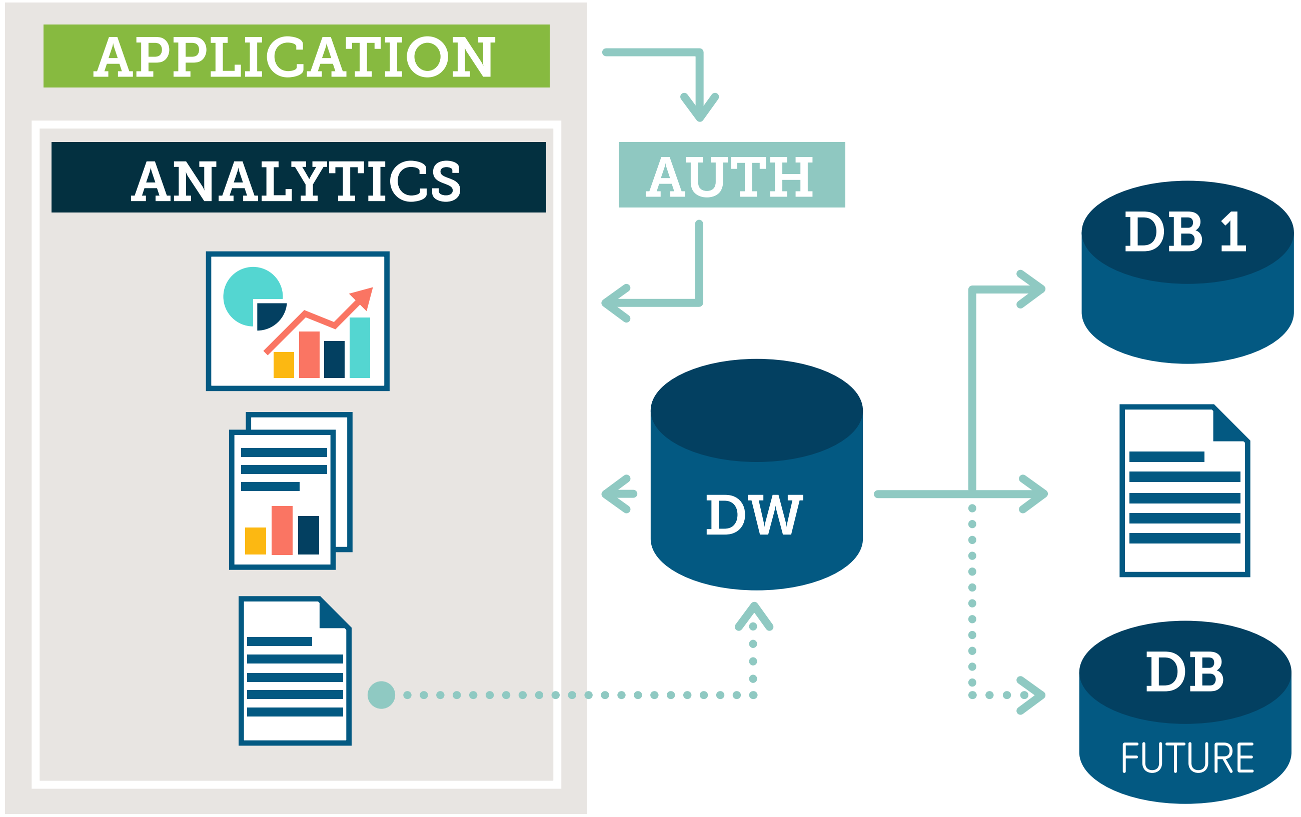
TIP

While a UI mockup is imperative, be careful not to go into too much detail too early. If you show actual numbers or real labels on the visualizations, users will often focus on the details and miss the bigger picture. Keep the focus on the solution's functionality and purpose and leave the details for later. Remind your users that this initial mockup will serve as the basis for a full wireframe later.

REFINING YOUR SOLUTION WITH MOCK-UPS

Now that you have a good sense of the components of your analytics solution, it's time to start drawing it up.

First comes the technical mockup, where details are key. When speaking to your technical SMEs and stakeholders, go into the databases you've captured, the application your solution will feed into, where it will be embedded, how it will integrate with the security framework, and so on. Present what you've heard and ask the technical experts if it makes sense.

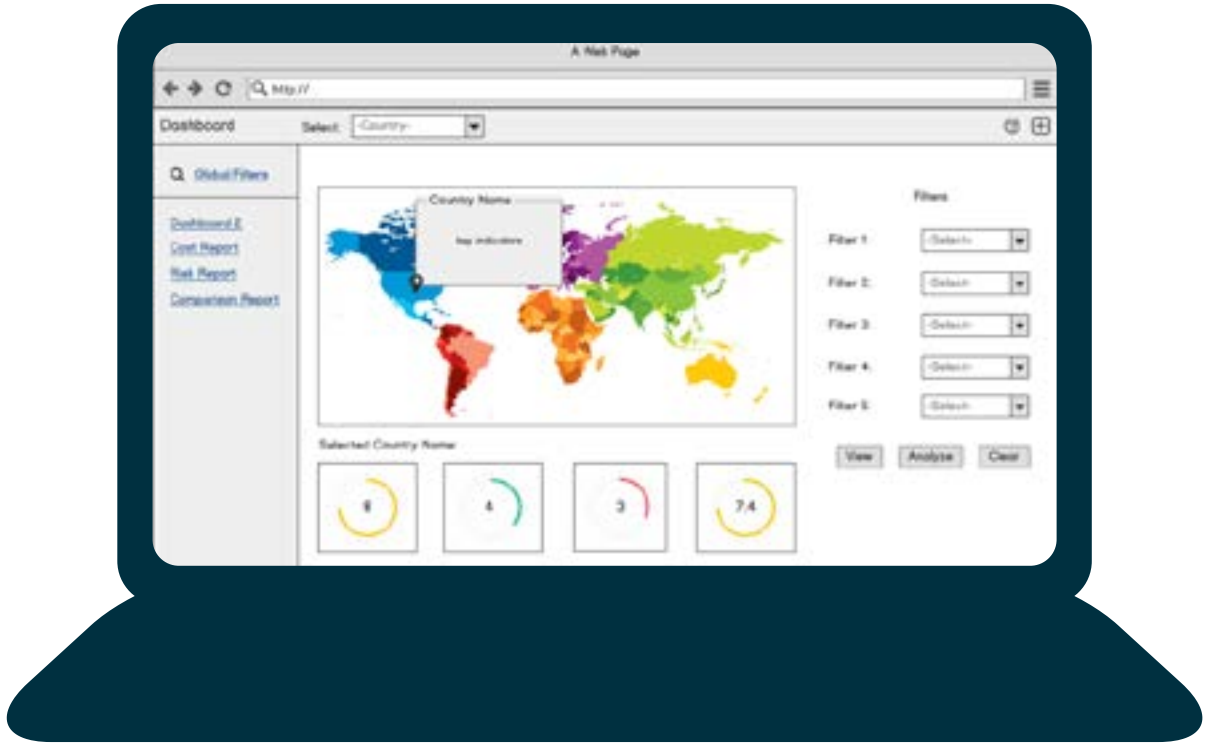


Next, refine everything in a whiteboard session. "Get in front of your users and draw up what you think you've heard from them," says Gow. Outline the conceptual form of the solution—the data visualizations, points of interactivity, and so on—to give your users something to respond to and gather feedback. UI is critical to user adoption; don't let it fall by the wayside.

AS YOU PRESENT YOUR MOCKUPS, ASK AS MANY QUESTIONS AS YOU CAN ALONG THE WAY.

For example:

- What information do you need from me and what form do you need it in?
- What do you need to understand about this data?
- What do you like or dislike about this example?



Once you've completed your user interviews and whiteboard sessions, it's time to iterate. If a particular approach isn't working for your users, adjust your UI mockup to meet their needs.

When your test users are more or less happy, you can create a more formal mock-up using a program like Balsamiq or PowerPoint. Share it with user groups and technical groups to make sure everyone is on the same page.

TIP

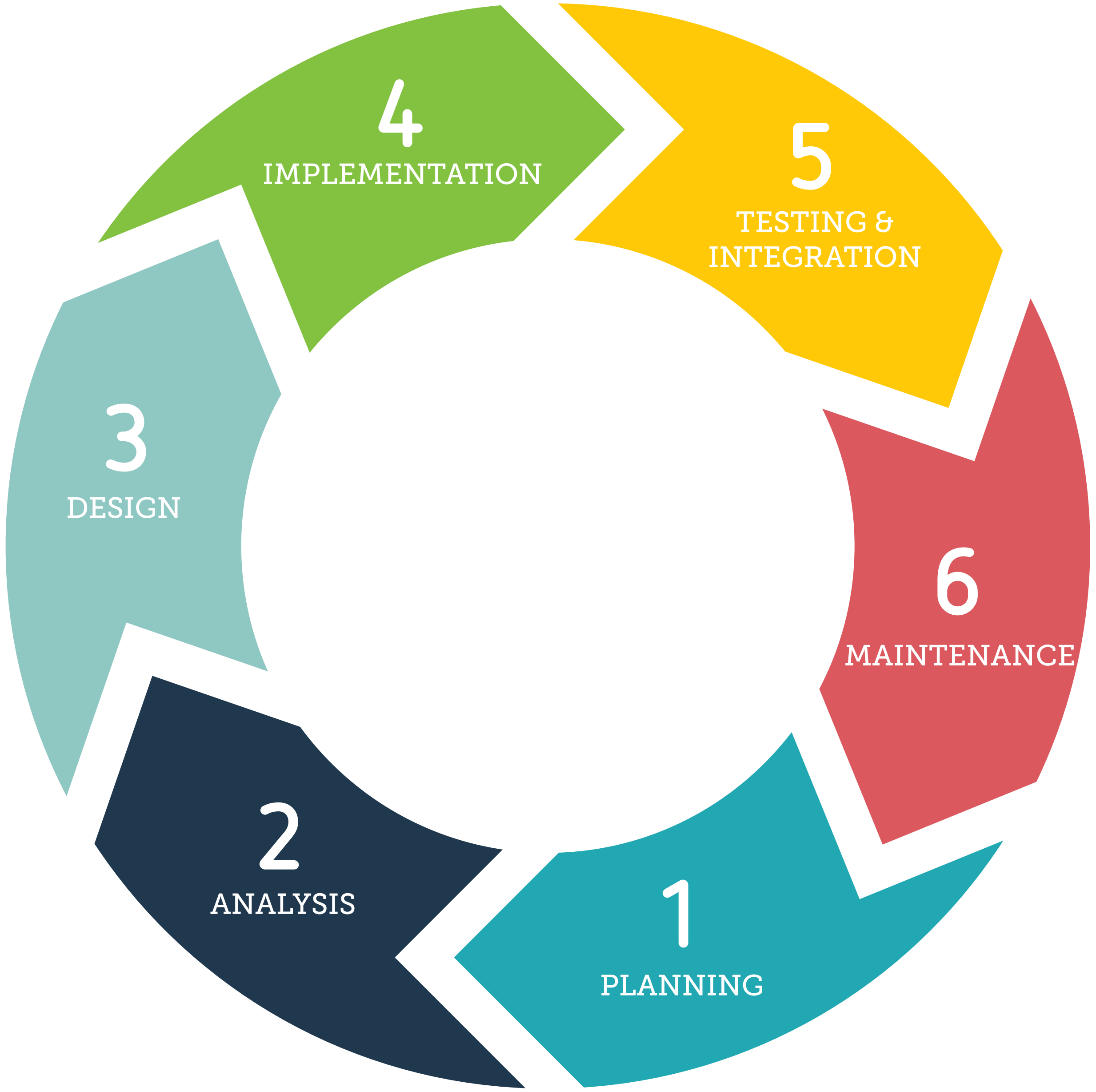
The best mockups look drastically different from the solution that is currently in place. If it's too similar to what already exists, you're doing something wrong. Think from a new perspective rather than simply improving on what is already there.

PHASE 3

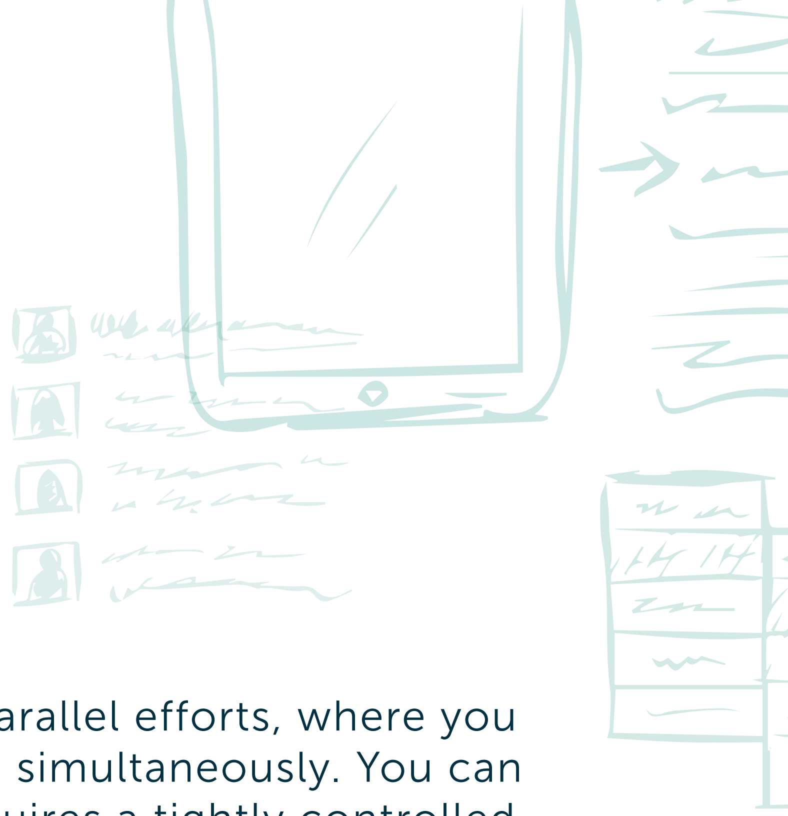
Structure Your Project

Now that you have a clear, cohesive idea of your new analytics solution, it's time to actually develop it. This means drawing a route from the concept through development of your solution.

Start by considering how analytics fits into the software development lifecycle of your product.



As you can see here, we've already completed the requirements gathering and solution defining phases of the lifecycle. Now, we're in the Designing and Building phases.



TWO APPROACHES TO DESIGN & BUILDING

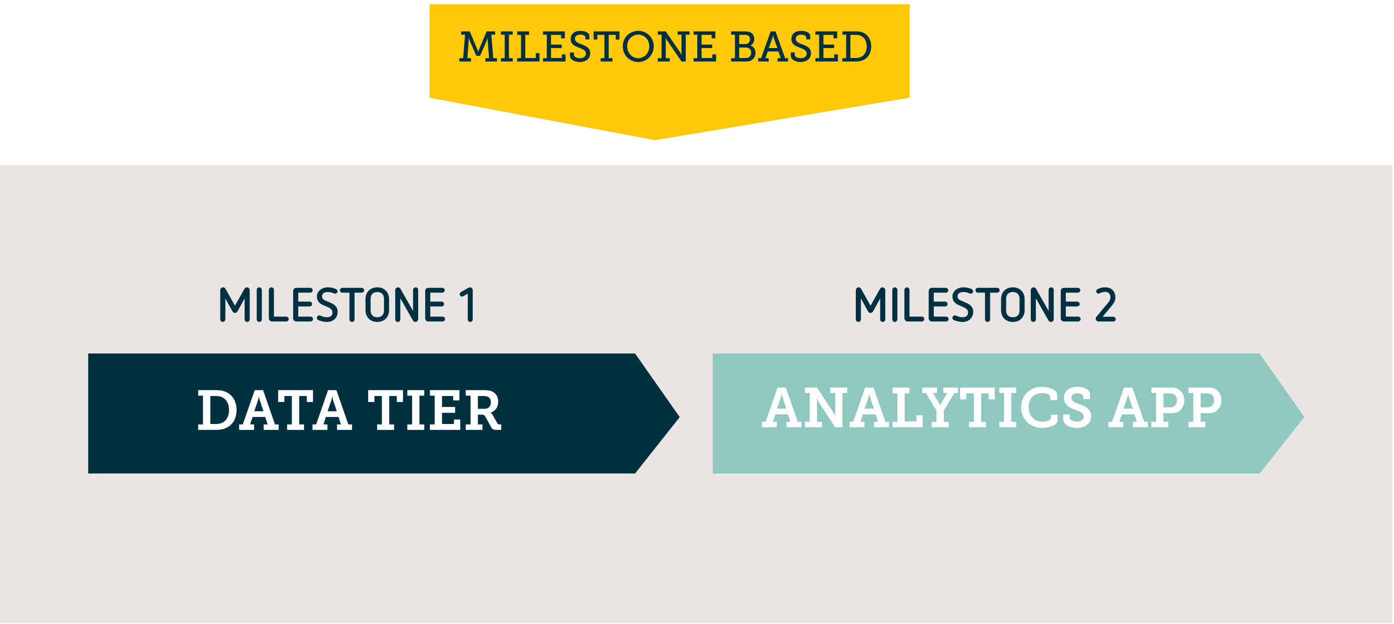
When it comes to an embedded analytics project, you may have some work to do to develop a data tier that will support the kind of solution you need. That can complicate your project, but you can overcome these challenges by structuring your project in one of two ways.

Milestone-Based

First is a milestone-based approach. If you have more time to develop, and you also have some constrained resources—for instance, you can only get your data experts in at certain times and your development experts in at other times—then you may choose this approach. This involves developing your data tier in phase one, then delivering your application in the next phase. This approach takes more time for development, but allows you to balance resources.

Parallel Effort

A more common approach involves parallel efforts, where you develop your data tier and application simultaneously. You can accomplish this in less time, but it requires a tightly controlled lineup and tends to be all hands on deck. You'll need to closely align and coordinate your database architects and developers, development team, people who can validate your data, and your QA team, among others.



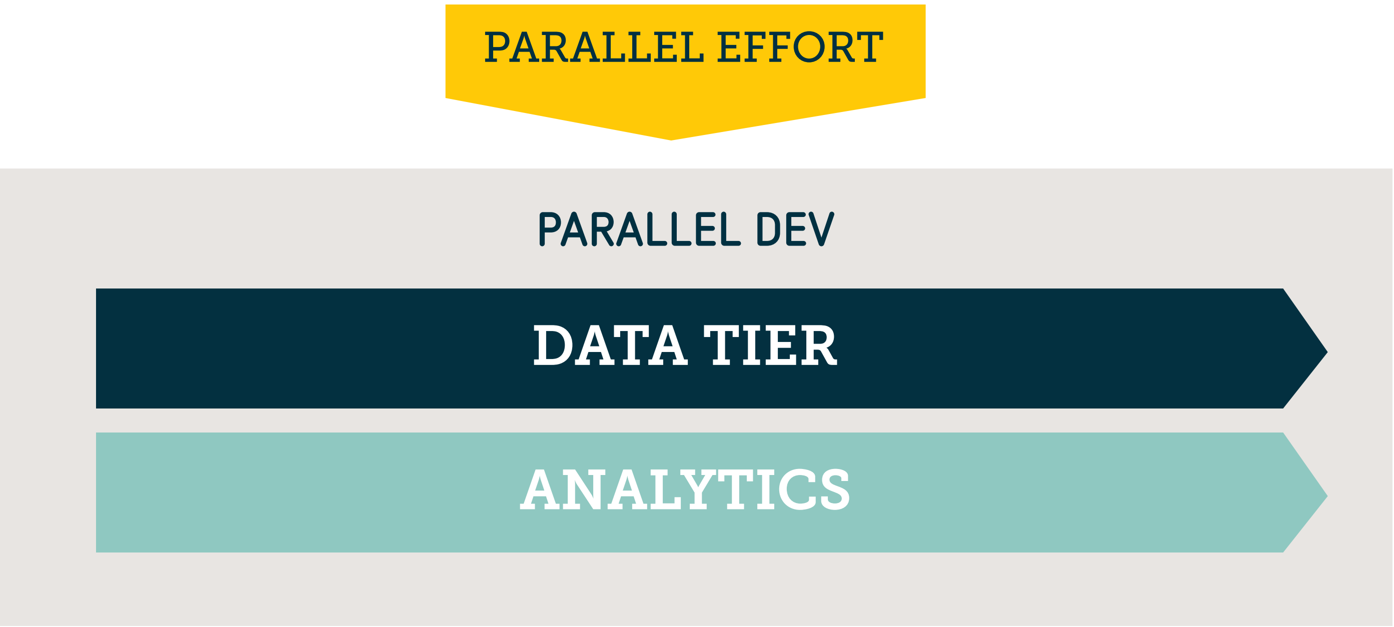
MILESTONE BASED

MILESTONE 1

DATA TIER

MILESTONE 2

ANALYTICS APP



PARALLEL EFFORT

PARALLEL DEV

DATA TIER

ANALYTICS

Defining Your Blueprint Schedule

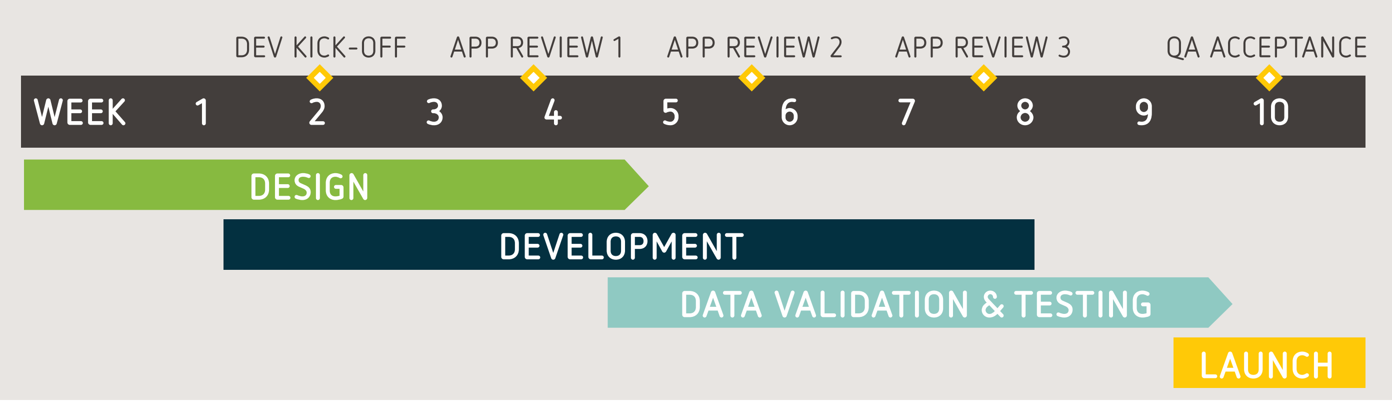
Your next step is to set up your development schedule. Keep these four considerations in mind as you're establishing a timeline:

- **Involve your users:** Set up a group of the users you've interviewed as a committee that can review designs as you iterate and see results coming out at frequent intervals during development. Not only will you get feedback from them early and often, but this also helps keep your users engaged. They'll get excited as they see what's coming and they can act as ambassadors to the rest of your users.

- **Invest in testing:** Even if users don't like their current analytics solution, that's not a guarantee they'll fully embrace a new solution. The only way to really know is to give them the opportunity to test your proof of concept and then take their feedback and iterate on it. You may also want to devote some time to having users test the application in real-world scenarios to make sure it can handle the required tasks.

- **Allow time for design iterations:** As you ask users for feedback at regular intervals, you'll no doubt need to go back to adjust your solution's design accordingly. Leave as much time as possible for this iterative process—and remember that you can always iterate on your finished product in later releases.

- **Start data validation early:** No one likes doing this, but if the first thing your users see is numbers that are off, your BI project will launch with lower user adoption than you'd like. Find people who can validate data and get them to participate early to make sure you launch with accurate data.



Resources for Your Project

Staffing Resources

You'll need specialized staffing resources as you develop and deploy your analytics platform. Note that these resources are in addition to the staff you need to keep your current application running.

- **Data development team:** Your data team may consist of in-house experts on your current data systems, or you may bring in an external team to fill this need. This team will include data architects, developers, and database administrators for modeling data, developing data stores, designing ETL, and tuning for best performance.

- **Data validation:** Your data validation team may be your business subject-matter experts, since they understand that data and how it's being used. Your user representatives will be helpful in defining source data and validating numbers.

- **UI/design team:** Design and UI resources are especially crucial for embedding analytics in an existing product, since a seamless style and user experience is required. This team will help with branding, UI, and designing visualizations for global audiences.

DATA RESOURCES

Even if you or your customers have a data system already in place, that doesn’t necessarily mean the data is ready for analysis. Typically someone modernizing an existing analytics offering that sits within an application will have to do work on the data tier to support what they want to ultimately do. This is especially true if users have expressed concerns with the performance of the existing system.

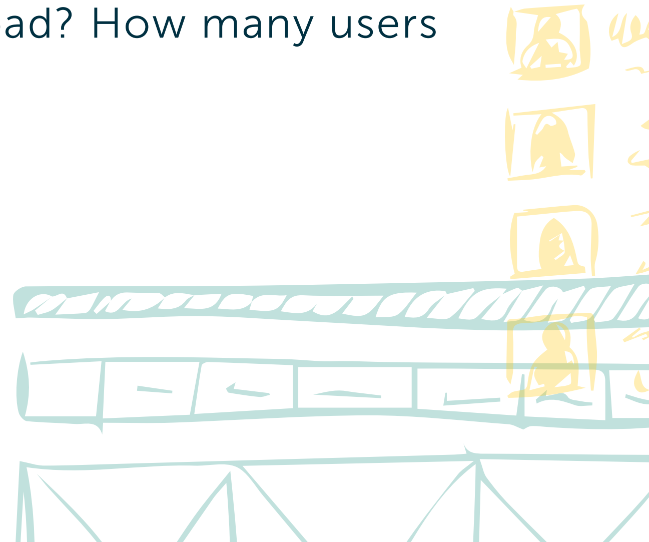
Plan your development cycles around this extra work so you have real numbers to test and validate. Line up your supply of data in advance and start data validation early.

Considerations for optimizing your data:

- **What is your current data tier?**
  What does it look like? Is it performing well? Are you experiencing report problems from your existing system (whether that’s an outdated system like Crystal Reports or SSRS, or a homegrown solution built in Visual Studio)? Or is it that your current solution is trying to pull data from a poorly managed store?

- **Are there more data sources you want to pull in?**
  If so, what’s the best way to do that so everything feeds into the same solution?

- **What are your performance standards?**
  Consider what you need to get out of the new application: How quickly do your users expect the application and pages to load? How many users will you need to support?



AVOIDING COMMON PITFALLS

Having a good blueprint will set your BI modernization project up for success. But you still have a few risks to watch out for. Take note of these common pitfalls and how you can mitigate them:

Risk: Nice Dashboard, But No Data
Resolution: Don’t let your app get ahead of your data. Structure your project to ensure there’s always something to show and validate at each review. Also take care to stagger your project timeline so the data architecture is ready before development begins.

Risk: User Count = 0
Resolution: It’s a product manager’s worst nightmare: You launch a product update with gorgeous new analytics, but no one’s using it. Prevent this by involving your audience early and often. Start with the solution design and conduct frequent reviews with users. They’ll serve as ambassadors to the rest of your user audience, helping to ensure high adoption as soon as the product hits their desks.

Risk: User Count = The World
Resolution: This problem may be a good one to have, but it can still be daunting. If you launch and have more users than you expected, you risk being buried under enhancement requests. Stick to the script and iterate using the blueprint method. Keep a log of everyone’s feedback, then go back and interview the users who submit requests to find out what they really need. Prioritize enhancements across future project phases. Remember that everyone will have a different opinion on how things should be done.

PHASE 4

Plan for Deployment and Beyond

Rolling out new analytics capabilities in an already existing product can be tricky. That's why having a deployment plan is crucial to the success of your analytics modernization project.

First consider your deployment model. Do you host your product for your customers or do they host it? If you're rolling out the product on servers you own, the process will be simpler. But if you have to deploy the application as a product update to customers who host it themselves, the structure of your deployment may be different. Plan accordingly and consider any additional ways you'll need to support your customers.

Next, plan for performance testing. Testing the product under the load of your current customer base is especially important if one of the problems with your current solution is poor performance. Before deploying a solution, test your assumptions and make sure everything performs the way you need. If you launch a product that underperforms, you risk users rejecting the solution outright.

Keeping Your Product Modern

The world of software products—and embedded analytics in particular—changes frequently. So even after you've modernized your analytics offering and deployed your updated product, the process isn't over.

Use regular customer interviews or surveys to track the response to the enhancements you've made. The biggest risk here is failing to engage with users after deployment. Keep asking your users what they want: Do they like it? How are they using it? Are the analytics driving value?

As you talk to users, you'll inevitably want to iterate from there. Fortunately, you can continue using the blueprint method to integrate changes down the road. Set up a new blueprint for each set of enhancements—then track them and keep improving your product.

CONCLUSION

Starting your analytics modernization project with a blueprint gives you a high probability of success. From requirements analysis to solution architecture and implementation, your blueprint will provide the framework you need to develop a product that works—and that users are excited about adopting.

Ready to start modernizing the analytics in your application? Logi Analytics can help.

TRY A DEMO TODAY!