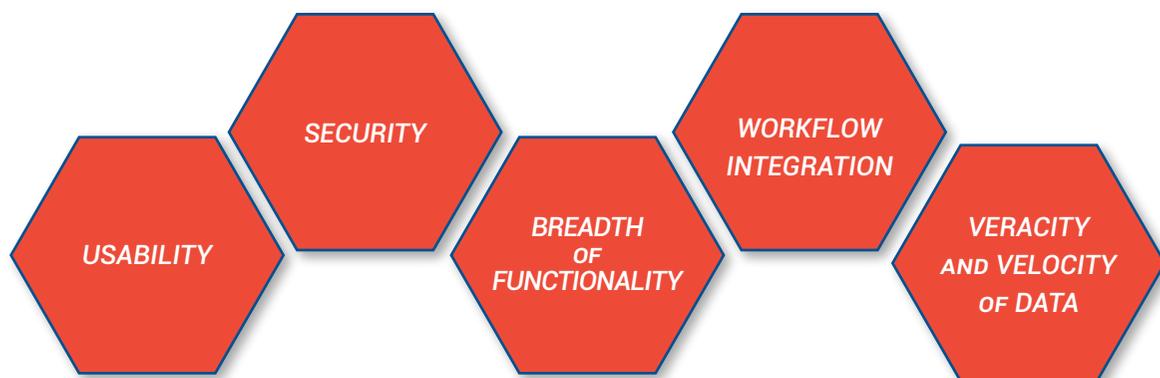


BI & ANALYTICS IN APPLICATIONS

4 Stages of **EVOLUTION**

For ISVs, solutions providers or any organization developing an application, providing some form of reporting is a must. But reporting has evolved into business intelligence and analytics as ad-hoc reporting, dashboards and visualizations become the norm. Ultimately, how effectively that BI solution meets the needs of an application's user base is determined by a variety of factors including:

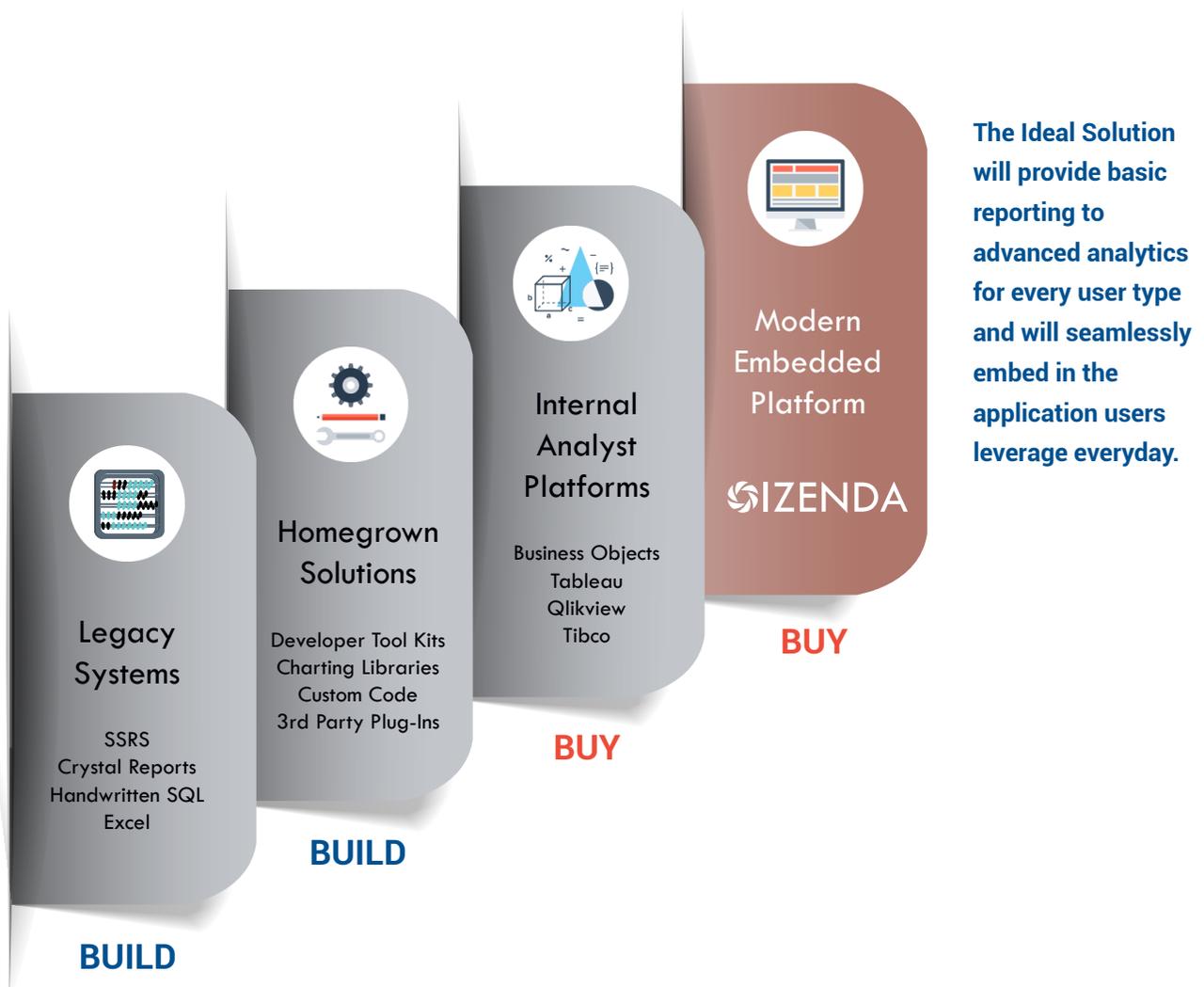


Increasingly success is also determined by the ability to provide real-time, self-service data discovery to a broader user base.

Business intelligence software has evolved along a continuum that is divided into four distinct stages. Two of these involve building a solution; the other two are purchased solutions. Each approach has business, functional and technical issues that should be considered by the organization developing the application.

This guide will enable you to see what stage your application has reached and what opportunities and issues each phase presents as your organization moves your software application's BI and analytics capabilities forward.

THE 4 STAGES OF BI & ANALYTICS MATURITY WITHIN AN APPLICATION



BUILD – Legacy Systems & Homegrown Solutions

Traditionally, software companies add business intelligence either by **building a solution** that leverages existing systems, or by **creating a custom solution in-house**. It is as those applications mature, as companies attempt to increase sales, retain customers and diversify, **that issues and challenges with these in-house solutions emerge**.

Legacy Systems

Existing or legacy systems include solutions provided with the purchase of a database or deployed with an initial version of an application. They may also include Crystal Reports, SSRS, handwritten SQL or Excel spreadsheets produced by database downloads. These systems all allow the creation of some basic, static reports. However, they require IT support and **do not provide effective self-service except to power users**.

LEGACY SYSTEMS – KEY ISSUES & CHALLENGES

- BUSINESS** The **limited visual appeal** of legacy BI negatively impacts the ability to sell an application to new clients and to drive adoption within the current user base.
- FUNCTIONAL** Because they were not developed for a broad user base, legacy BI applications tend to be **difficult to use**. Created by an IT-centric generation, they usually require developer support and offer no self-service capabilities. Instead, developers are necessary to build out the reports and then publish them to the user base. No charting libraries exist with legacy solutions, requiring them to be integrated from another source, or custom built.
- TECHNICAL** Overall, integration of legacy BI systems is **disjointed**. For example, report and dashboard designers are desktop-based. These systems are also **not designed to support a mobile experience, multitenancy or many security models**.

Homegrown Solutions

Homegrown solutions are applications and solutions created by an in-house development team using disparate tools such as **developer tool kits, charting libraries, custom code or 3rd party plugins** intended for integration with the core application.

HOMEGROWN SOLUTIONS – KEY ISSUES & CHALLENGES

- BUSINESS** A homegrown BI solution is a frequent first choice as it has perceived lower costs to implement. However, **the true cost is often much higher** because companies tend to underestimate the expense of maintaining infrastructure and building new functionality. While an initial implementation may deploy quickly, as the breadth of functionality requested increases, **the lack of in-house BI expertise ultimately leads to longer time to market**. It also diverts key resources from working on core application functionality.
- FUNCTIONAL** While custom-coded business intelligence can be integrated seamlessly with an application, **true real-time self-service data discovery is not possible**. That's because BI and analytics is not commonly a core competency of in-house developers. As a result, **in-house business intelligence applications frequently have only limited functionality**.
- TECHNICAL** Software companies looking to scale their applications may find further shortcomings in custom solutions. **Multi-tenancy, security and compliance are all challenges** when a homegrown solution is scaled.

BUY – Analyst Platforms & Modern Embedded Solutions

Organizations build new applications or rework their current application to break into new markets, meet evolving expectations of key clients, make the management of the application more efficient or move the infrastructure to the cloud. These **software companies are forced to reevaluate the build vs. buy decision** for their BI solution. They have a choice between two options that both promote self-service functionality, but have crucial differences that impact them and their users.

Internal Analyst Platforms

Internal analyst platforms are tools like Tableau or Qlikview that have a robust analytics feature set. These tools are designed for **power users, data scientists and IT personnel** to deliver BI to a corporate user base.

INTERNAL ANALYST PLATFORMS – KEY ISSUES & CHALLENGES

- BUSINESS** Because an analyst tool is **not designed as an OEM solution**, it is not an ideal solution for ISV applications. These tools are **not truly white-labelled**; the 3rd party's brand logos and watermarks appear on reports and dashboards. Also, the high level of BI functionality that comes with these tools – as well as their licensing costs – make them **prohibitively expensive for SMBs**.
- FUNCTIONAL** Analyst tools are **not designed to be incorporated in the everyday workflow** of a wide range of end users. They **don't seamlessly embed into applications**; instead, they require users to navigate to another portal to access them. These tools often employ desktop-based dashboard designers, so they are not a completely web-based solution. They are designed for highly technical users, such as data scientists, and are not intended to deliver data discovery to end users across the organization.
- TECHNICAL** Analyst tools **don't use existing infrastructure**, which means they likely expose data security and compliance risks that will need to be resolved. And they **frequently require database administration oversight** to load and manage data using proprietary schemas, instead of leveraging existing data models.

EMBEDDED BUSINESS INTELLIGENCE

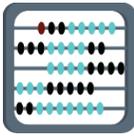
Embedded Business Intelligence is a modern approach to BI inside applications, comprising reports, dashboards and visualizations that are seamlessly integrated into the workflow of the host application. **These solutions are designed for use by a broad and non-technical user base.**

EMBEDDED BI – KEY DIFFERENTIATORS & BENEFITS

BUSINESS Embedded BI is completely white labelled, so it looks and feels like the host application. Because it leverages existing infrastructure, it **reduces costs**. And because it was designed and architected for embedding, it **deploys quickly**. An embedded solution provides a true OEM licensing model with **unlimited use**, and no fees for separate environments, users or cores. Embedded OEM licensing models provide ISVs flexibility in how they monetize the improved analytical functionality in their application.

FUNCTIONAL Embedded BI is designed to deliver real-time self-service data discovery via a highly configurable user interface. Users are able to **understand their data** without knowing the underlying data models, and explore it using **intuitive report and dashboard designers**. Non-technical users are empowered with the ability to **create, customize and consume reports, dashboards and visualizations** – not limited to consuming and configuring only what is published by technical users. Collaboration, scheduling and email features further enhance the self-service experience for end users.

TECHNICAL Embedded solutions inherit an application's **existing security and compliance models**, minimizing complexity and ongoing effort to manage. Because an embedded solution is scalable, **seamlessly integrates with the host application's codebase** and does not require a separate server or desktop instance, host applications can scale to Azure and comparable cloud services. An embedded BI solution can be **fully customized**, with functionality and security configured by client and role.

	 Legacy Systems	 Homegrown Solutions	 Internal Analyst Platforms	 IZENDA Embedded Self-Service BI
BUSINESS	Difficult to sell Limited Visual Appeal	Longer Time to Market Not as Competitive	Not True OEM Licensing No White Label Branding	Full Branding Control OEM Licensing Existing Infrastructure
FUNCTIONAL	Hard to Use Developer Centric	Limited Functionality Lacks Self-Service	Desktop Designs Power-User Focused	True Self-Service Configurable UI
TECHNICAL	Desktop Based Disjointed Integration	Difficult to Scale Time Intensive	Separate Systems Lacks Configurability	Fully Customizable Seamless Integration Inherits Security

NEXT STEPS IN EVALUATING BI & ANALYTICS OPTIONS

This guide is an overview of four different approaches to providing BI and analytics within an application. Regardless of the stage of an existing BI implementation, a successful evaluation requires answering 5 questions:

Why are we undertaking a BI project?

What resources can I commit to the project and in the future?

When does the project need to be completed?

What is my budget?

How will I monetize or recoup costs for this new functionality?

For most SMB software companies, **embedding a true OEM solution**, one that is highly configurable and seamlessly integrated, leads to **higher adoption, faster time to market and superior ROI**.

For more information on evaluating an embedded BI solution, please consult the additional resources below, **view our resource library**, or schedule a time to **speak with one of our team of specialists**.

DISCOVER MORE **IZENDA RESOURCES**

[Embedded BI: Build vs Buy: 8 Key Considerations When Adding BI & Analytics to Your Software](#)

[Securing Self-Service BI in Your Application](#)

[Izenda & SQL Server Reporting Services](#)

[Solutions Architect on BI & Analytics Trends](#)

ABOUT **IZENDA**

Izenda is an integration-ready .NET web platform that allows organizations with on premise, cloud, SaaS and enterprise applications to deliver modern self-service business intelligence to their customers. Embedded BI empowers end users to create, customize and consume reports, dashboards and visualizations within the applications they use every day.