



All About Low Code: The Technology Behind Citizen Development's Explosive Growth

Application development has come a long way from the days of machine code and punch cards. But even with modern high-level programming languages, the process of designing, hand-coding, testing and debugging applications is long, expensive and requires highly-skilled developers.

Traditionally, central IT served as the hub for application development. However, as organizations seek to automate more parts of the business and execute faster and faster, resource-strapped IT departments are overwhelmed by the number of requests for more solutions. Priority goes to applications and services that directly impact customers or are used across the business.

Increasingly, companies are looking beyond traditional IT by encouraging non-technical users (called citizen developers) to develop their own solutions. What's making this sea change even possible?

Low-code platforms that bring IT and the lines of business together by making it easier and faster to develop applications that meet business needs.

Q. What's a citizen developer?

A. A tech-savvy business user, not part of IT, who builds their own applications.

Learn more about what citizen developers do and how they're changing app development in [*Driving Competitive Advantage by Empowering the Citizen Developer.*](#)

Why Low-Code?

Traditional application development methods are often in conflict with what the business demands – more innovation, better customer and user experiences, with less money and in less time. Limited IT budget and a fast-changing business landscape means:

- **Highly-skilled programmers** trained in complex programming languages and methods are **hard to hire and expensive to retain**
- **IT must prioritize requests according to budget, need and impact on overall business** – often leaving projects important to an individual business unit bogged down by red tape, long approval cycles or even apathy
- The amount of time required to design an app, write the code, test functionality and fix bugs means that by the time of actual deployment (six months to a year or even longer), **the final product may not fully meet new, different business demands**
- **IT often has to play a never-ending cycle of catch-up** through fixing bugs, making changes, and updating and maintaining code
- **IT has less time and resources** to spend on projects that could be more profitable for the overall business or that directly impact customers

Low-code platforms streamline and eliminate many of these steps, allowing developers to quickly create and deploy an application in only a few weeks as opposed to months or more in a traditional IT cycle. The result is greatly improved efficiency and reduced development costs.

While low-code platforms are a powerful tool for speeding up application development in IT, the real potential of this technology comes from empowering business users to develop their own solutions. A robust, low-code development platform utilizes graphical interfaces and intuitive, drag-and-drop visual models, pre-built templates and cloud-based smart objects, virtually eliminating the need for any specialized programming skills or hand coding.

Many of these templates and objects can be standardized and used in multiple applications across the business, making it easier to enforce corporate standards and maintain security protocols. In addition, built-in logic helps prevent programming errors by allowing developers to test functionality in real-time.

This proves to be a huge win for both IT and the line of business. Empowered citizen developers can quickly address their business needs while relieving IT of the burden of maintaining code. IT now has more time to devote to developing new systems and focus on emerging technologies.



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Establishing a Low-Code Environment

Citizen developer programs backed by low-code technology work best when IT embraces it and provides training and support to the businesses. Best-in-class low-code development programs need to emphasize the following:

- **A Consistent Approach:** A successful low-code environment helps unite IT and the line of business toward a common goal. Together, they work to establish the ideal environment that is easy to use and accessible across all business lines. Organizations need to establish a consistent approach to how low-code is implemented so that everyone throughout the business can use the technology. A standardized, single-platform approach avoids the pitfalls of dealing with a mishmash of tools and apps that don't work together, are difficult to maintain and may risk exposing the company to security breaches.
- **Training and Support Programs:** Training programs need to be short and easy for new developers to access so they can quickly begin their projects. Organizations can enhance ongoing support and additional training by encouraging a community around a low-code platform where developers can help each other get more out of the platform by sharing solutions, reusable objects and advice.

- **Evaluation Methods:** Not all projects are suited to low-code development, so IT and the line of business need to work together to identify the kinds of situations that would benefit the most from a low-code approach. Together, they develop a method to evaluate applications and decide which can be built by the business using low-code versus those that require the additional expertise from IT.

Speed of development is the biggest benefit of a low-code platform, with some companies seeing their development times accelerate by five to 10 times over traditional hand coding.¹

Key to realizing this benefit is an intuitive platform that also gives IT the robust tools they need to scale process automation throughout the entire company.

¹ Richardson, Clay and John R. Rymer, Alex Cullen, John M. Wargo, Christopher Mines, Shaun McGovern, Diane Lynch. [Vendor Landscape: The Fractured, Fertile Terrain of Low-Code Application Platforms](#). Forrester. January 15, 2016.

Features to look for in a low-code platform include:



Intuitive Interfaces: A good low-code platform provides benefits at all levels of development, including the system administrator, the developer and the user. Intuitive interfaces make it easy to learn and use so citizen developers without formal training in coding can develop their own applications.



Wizards and Templates: Wizards and pre-built templates for commonly used processes and tasks, such as approval routing, help reduce development time and make it possible to quickly get an app up and running. Developers can then configure the app and add more features and functionality, resulting in a more robust solution in less time.



Cloud-based Deployment: Organizations are increasingly transitioning operations into the cloud to take advantage of the flexibility and virtually unlimited scalability offered by cloud hosting services. Low-code development platforms combined with cloud deployment allow developers to quickly distribute updates immediately across the entire platform and add new features that take advantage of the latest technology, like AI and machine learning, and integrate them with other cloud-based apps through APIs.



Maintenance Tools: IT departments spend inordinate amounts of time supporting, maintaining, upgrading and fixing bugs in their applications. A low-code platform that provides configurable maintenance tools relieves some of the support burden from IT without completely sacrificing control.



Security: Tools built into low-code platforms allow IT to set security restrictions and build in guardrails that define who can access certain data and functionality in the system. This enables IT to continue to oversee security, governance and compliance while still allowing citizen developers autonomy in developing their own applications.



Customization and Integration: While simple, self-contained applications are relatively easy to create with low-code platforms, when it comes to customization and integration with other applications and databases, IT needs to step in to provide more oversight and additional APIs. Management tools built into the platform make it possible for IT to provide customization support as well as share some of the administration burden with the solution side of the business. IT and the line of business work together to set up the platform so that the business can self-administer its own processes and applications and manage the application lifecycle.



Scalability: Ideally, the low-code platform provides benefits beyond just the citizen developer. Even experienced coders can benefit from low-code's ease-of-use and fast development cycles. Low-code platforms combine object-driven, drag-and-drop user interfaces with a rich set of APIs so developers can build more comprehensive, customizable applications in less time than traditional hand coding. This makes the entire business more efficient and effective and frees up IT resources to work on projects that impact the bottom line.

The High Value of Going Low Code

In today's technology-driven marketplace, the value of an agile low-code platform like K2's is clear:

Business users have the tools they need to solve their own business problems, and IT finally has a way to meet the increased demand for innovative, impactful solutions.

More companies than ever are investing in low-code technology and even more importantly, seeking out, nurturing, and supporting citizen developers. Using a low-code platform like K2's to raise profitability through process automation, and help employees maximize effectiveness through empowerment and self-sufficiency isn't just a sea change, it's a welcome change.

For more information or to request a demo, visit [K2.com](https://k2.com).



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