



Breaking The Mold: Zoho Creator and The Added-Value of Low-code Application Development

An Enterprise Applications Consulting Focus Report

Joshua Greenbaum, Principal

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This is the fourth in a series of reports on the different ways in which Zoho breaks the mold in the enterprise software space and how that benefits its customers. This first report looked at Zoho's customer-friendly licensing and pricing model, the second report explored how Zoho supports its customers' heterogeneous software environments, and the third report highlighted how Zoho's longstanding policies regarding privacy and security help to safeguard its customers, and their customers too. This report details how Zoho's approach to low-code development benefits customers, partners, and developers by providing tools that solve business problems without requiring a massive development effort.

Introduction: Short-circuiting Application Development Failure

Despite the fact that the enterprise software market focuses on technology adoption as a major potential barrier, in truth user acceptance and change management are the biggest factors in the transformation and automation of business processes. All too often the most perfect solution, developed by an internal IT team over many weeks or months, turns out to be perfectly engineered, but very imperfectly designed. These solutions often miss critical requirements, and make unfortunate assumptions about how a business user wants to tackle a particular problem. The end result is wasted time and effort, and countless lost opportunities to streamline a process, create new value, or otherwise advance the business goals of individual users and the enterprise.

Zoho sees this industry-wide wasted time and effort as an opportunity. By providing a rich low-code toolset, based on Creator and built on top of a deeply integrated application suite, Zoho's customers and partners are able to more readily code business expertise and end-user requirements into their custom applications without requiring constant handholding from the IT department or its corps of professional

developers. With more pre-built, pre-integrated functionality to draw on, visual modeling tools and other features, traditional IT custom code development and support burdens can be greatly reduced.

This in turn creates a positive feedback loop for the enterprise: the more successful a company is in unleashing the business knowledge of its user community towards the goal of automating valuable business processes and creating new ones, the more that company's users are inclined to lean on these low code tools to look for additional automation and process improvement opportunities. And the more business users are freed up to work more on what matters and less on filling out spreadsheets and chasing paperwork.

"You see people really get empowered to solve their problems by building new apps" using Zoho's low code tools, said Tejas Gadhia, developer evangelist at Zoho. Successful low code projects "can provide an inspirational jumpstart that get people going."

The Benefits of Low-Code: "It's No Longer a Big Ordeal"

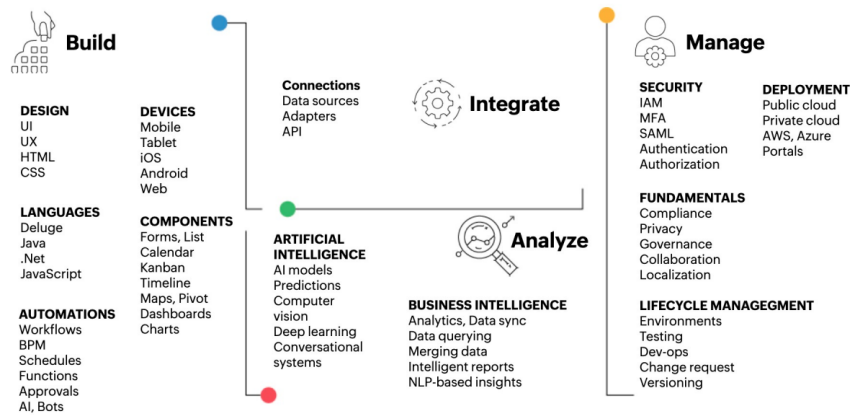
Getting people going in the direction of building customizations that meet their needs can have significant benefits in terms of the total cost of developing new functionality in Zoho, David Fauser, director of sales at CIMCO, an industrial refrigeration contractor, told Enterprise Applications Consulting. "It's no longer a big ordeal," Fauser said. "I don't need IT approval, I don't have to go back to my boss to get budget."

At CIMCO, Zoho's application suite is used for a variety of mission critical processes, and the adoption of Zoho's CRM and other applications as a core backbone for the company's business processes created significant efficiencies and an initial boost in sales. Using Zoho Creator as a platform for business process improvement has helped the company extend those initial efficiencies into other functional areas of the company for which Zoho doesn't already have a neat, out-of-the-box solution.

One key issue CIMCO faced was automating the company's process for cost-estimation and job quoting: Its complex product and service mix requires estimation that includes a vast array of materials, labor, and other expenses with various required calculations. In addition to CRM, the process also uses third party applications for proposal generation and back-office finance and other functions. Providing streamlined sales, quotation, and order fulfillment processes to its users meant that CIMCO had to go above and beyond standard, out-of-the-box CRM functionality.

The company turned to its partner, Hero Technical Solutions, to tackle the task of not only building the specific functionality that CIMCO needed, but to do so in a way that got the initial job done and left room for improvements and modifications down the road. Hero in turn leveraged Creator to get the job done. Creator lets Hero develop apps that are "fast to build, easier to maintain, and someone can pick it up easily and make changes," Len Kamerman, a partner at Hero, told Enterprise Applications Consulting.

Figure 1: Zoho Creator Feature set



Creator is particularly good for rapid prototyping, allowing Hero and customers like CIMCO to iterate through different versions of an application and ensure the process flow fits and the new app has the right level of user acceptance before finishing the application and making it generally available. “The solutions we can build with Creator are a lot more compelling,” Kamerman said. “The initial effort can be a matter of a day or two, or sometimes hours,” Kamerman explained. “Once you have that foundation it doesn’t take a lot to build on top of that.”

The ability of Creator to help quickly develop new functionality for non-technical users has also made it an important tool in the toolbox of Mikhail Zolikoff, Clinical Informatics Specialist in the Quality Department at the University of Michigan’s Michigan Medicine hospital system. Creator allows him to create forms that hide a significant amount of functionality and workflow logic behind a simple user experience. “It would have been eight systems, with multiple exports and imports” if he hadn’t used Creator, Zolikoff explained. “Now it’s all in just one system. Once I light the match it just happens,”

The savings in time developing new applications with Creator has been significant. “It’s reduced labor [to develop applications] by three-fours,” Zolikoff said. “But it’s also freed up my program managers’ time. Their time was taken up doing paperwork they no longer need to do. Using Creator not only saved time, it also shifted the labor involved.”

That combination of rapid prototyping and continuous value was exactly what Zoho had in mind when it developed Creator, Gadhia said. “We want customers to be able to build a baseline app in three hours, but also have the extensibility to extend it further,” Gadhia said.

Zoho's Variety of Low Code Approaches

While Creator is the primary tool for low code development, Zoho also offers a process automation tool, Qntrl, that can be used to automate previously manual, disjointed tasks, as well as Flow, which can be used to build custom workflow integrations, allowing Zoho users to work seamlessly between Zoho apps

Zoho Creator Key Capabilities:

- Access to Zoho One suite of applications
- Access to Zoho third party integration tools
- Integration with Zoho BI and Analytics
- Forms, Reports and Dashboard Builder
- Built-in Workflow and Process Automation
- Built-in security and data privacy
- Leverages Zoho's single data model and cloud

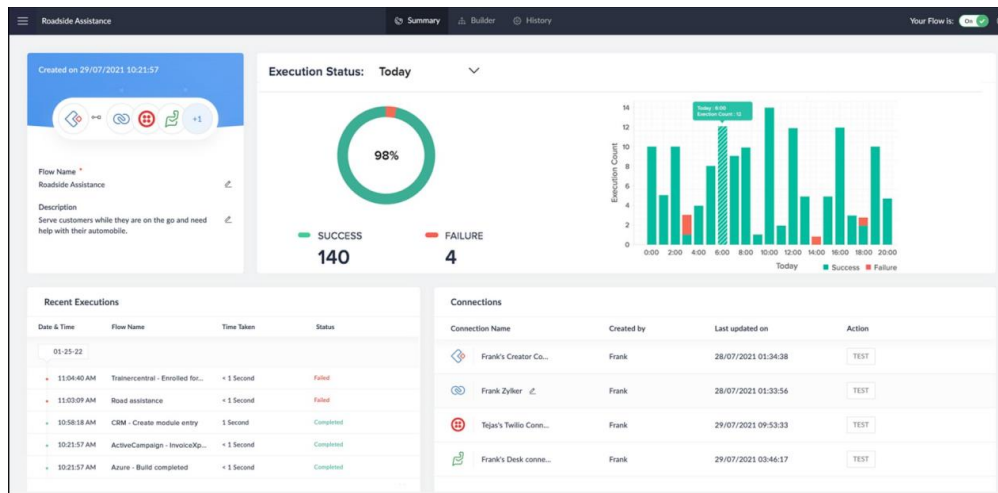
and third-party applications and services. Zoho Analytics can also be used to build dashboards and other analytics that leverage functionality in Creator and across the Zoho One suite. And, for professional developers and their requirements, Zoho offers Catalyst, a serverless development platform that can be used for more complex applications that require deep integration and comprehensive programmatic control.

However, for most low-code requirements, Creator provides a broad set of capabilities. This includes the ability to create forms, reports, and dashboards, as well as develop workflows and automate business processes. The apps built using Creator can run on mobile devices as well as desktops, and can also leverage Zoho's AI, application integration, and analytics functions in a low-code environment. In its recent version, which was announced in March 2022,

Creator increased its built-in support for process modeling and automation, application integration, data visualization, and embedded analytics and artificial intelligence features. New tools for application lifecycle management and process monitoring and management were also included in the new release. (See figure 2 below)

This combination of low-code and professional tools helps customers streamline their application development processes, even those that are complex enough to need high-end developer resources, Gadhia explained. "This allows customers to have a more bottom-up approach. A business team creates an app and gets various stakeholders involved. By the time it gets to IT – so they can make sure it's compliant [with internal requirements] – a lot of functionality has been created and deployed," Gadhia said.

Figure 2: Process monitoring with Creator



The ability to bring the end-user’s expertise into the development process is extremely important to the overall success of the project. “You need to know how the business process is supposed to work,” Hero’s Kamerman said. “You’re then able to do a lot with just point and click tools within Creator to lay everything out. One you have that foundation in place it doesn’t take a lot to build on top of it.”

Hero also uses Creator’s prototyping capabilities to suggest new applications and functionality to its Zoho customers. “We can come up with a new idea and then ask the client ‘Have you thought of doing this or automating that?’,” Kamerman said. “Ultimately we can make an application that is really customized for the customer’s needs.”

Another benefit of Creator is that it allows Hero to hire less seasoned programmers and make them much more productive at adding IT-level functionality to a Creator app than if they were using standard development toolsets. “I don’t need to hire someone with 10 years of software development experience to do these projects,” Kamerman said. “If you can write in JavaScript you can work [as a professional developer] with Creator.”

Zoho’s relatively low price is also a major incentive for companies like Hero. The company compared Creator’s functionality to the low-code options from one of the market-leading CRM vendors and found that Creator “could pull off anything the customer needed. But the licensing cost was a huge difference,” Kamerman added.

The same combination of broad functionality and low price have helped attract a developer community who otherwise don’t using the rest of the Zoho suite, according to Gadhia. The fact that Creator supports integration to a wide range of non-Zoho apps is a key benefit. “Developers use Creator as the glue” to pull together customers’ heterogeneous applications and create more productive experiences for their users, Gadhia explained.

That “integration-out-of-the-box” capability has worked well for CIMCO. Creator has been used to enable several key business processes to integrate Zoho CRM with CIMCO’s backed systems, allowing

the company's users to work inside Zoho CRM instead of exiting CRM to finish a process in another system. "We wanted everything to be in CRM," CIMCO's Fauser said.

Creator not only made that initial integration possible, the tool also allows CIMCO and Hero to adapt the customizations as business requirements change. "When you go to design this stuff, it needs to be flexible," Fauser explained. With Creator "it's easy to go back to my developers when I need to."

For Zolikoff, the bottom line at Michigan Medicine has been the degree of user interest in expanding the use of Creator. "The more that I implement in Creator the more my manager asks for," Zolikoff added

Conclusion: The Power of Low-code in a Pre-integrated Suite

Zoho's low-code approach is a key part of the company's appeal as the provider of a cost-effective, highly functional suite of products that can also support highly customized functionality. Importantly, Creator is used by a significant number of customers that have not licensed the broader suite of Zoho applications. Regardless, the baseline offered by the one-stop-shopping license model of Zoho One – which has more than 40 pre-integrated applications, running on a single data model and in Zoho's own cloud – is enhanced by Creator's ability to take that out-of-the-box solution set and extend it to meet customers' specific functional requirements. In addition, the company's embrace of integration to non-Zoho applications is well-leveraged by Creator and the rest of the Zoho suite, resulting in the ability to further both extend and streamline customization by providing a much broader pallet of functionality on which to build custom functionality.

This mix of broad-based functionality, deep integration to third party applications and services, and a strong low-code offering positions Zoho as an important solution to an important problem: How to enable customer-specific functionality in a cloud market that prefers that customers adhere to the vendors' pre-built processes, and thereby try to limit customization, so as to lower vendors' overall support and maintenance burden.

In contrast to Zoho's 40-plus applications running on its own cloud, most cloud vendors and hyperscalers have a more limited pallet of application functionality on which custom development can be based. This means customers have to support a broader range of unique customizations and integrations in order to fill in functional gaps while building out the end-to-end integrated processes that meet their needs. On the other hand, Zoho's broad pallet of pre-integrated applications, running on Zoho's own cloud and leveraging its native cloud services, allows customers and partners to leverage existing functionality from Zoho and significantly reduce the amount of net-new custom code that has to be developed in order to meet the customer's needs. This means that the overall support burden for the custom functionality is also reduced, lowering initial development costs as well as longer-term maintenance costs.

The bottom-line value of Creator and related tools is literally found in the bottom lines of Zoho's partners and customers. For partners like Hero, Zoho and Creator allow them to do a better job supporting customers at a lower cost and in a shorter timeframe. Customers like CIMCO and Michigan Medicine get to develop or at least get started on developing the custom functionality their business users need without burdening the IT department and/or risking that a comprehensive development process won't yield the results they need.

The result is a custom-development capability that makes it not only easy to build what's needed to meet today's business requirements, but can also support the continuous evolution of business requirements in the dynamic global economy in which we all live. As with the other examples of how Zoho breaks the mold in enterprise software, its approach to the low-code opportunity sets the company apart in an otherwise crowded market.