IDC Technology Spotlight

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Author:

George Mironescu

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WEM: No-Code Development to Democratize Cloud-Based Application Functionality Creation

Executive Summary

Businesses have been relying on IT (embodied by both internal resources and external providers) to build or customize application functionality, but very often the IT has been disconnected from the business agenda. This can impact companies' competitiveness (including limited innovation capacity) and lead to missed opportunities, substandard customer experience, and distorted digital value.

To improve their competitive standing, many organizations have been rushing to invest in platform as a service (PaaS), and while there are clear return on investment (ROI) proof points for PaaS, these come to address the immediate needs of IT, with no clear-cut benefits for the business. Investment in PaaS may allude back to the above challenges, where simply acquiring a cloud platform, or access to one, is not likely to change the IT-business organizational status quo.

Organizations have sometimes also been paying for implementation and customization of application software/SaaS functionality that was redundant or irrelevant for the user, or paying for idle functionality that was aging and no longer adequately serving the business purposes. This may ultimately result in application functionality being abandoned, hence poor asset utilization.

New IT solutions have begun to emerge on the market that seek to resolve these challenges by directly facilitating the business user to design, deploy, and iterate around application functionality using non-technical tooling and without requiring the respective application builders to have IT engineering skills. These IT solutions also aim to eliminate investment inefficiencies where an organization would pay for the mere functionality created or issued and deployed rather than for functionality procured in bulk but which may prove unnecessary. The adoption of such solutions, known as no-code application development (or "no-code") environments, is expected to considerably expand over the next decade, with potentially significant implications on how organizations operate and innovate in the market.

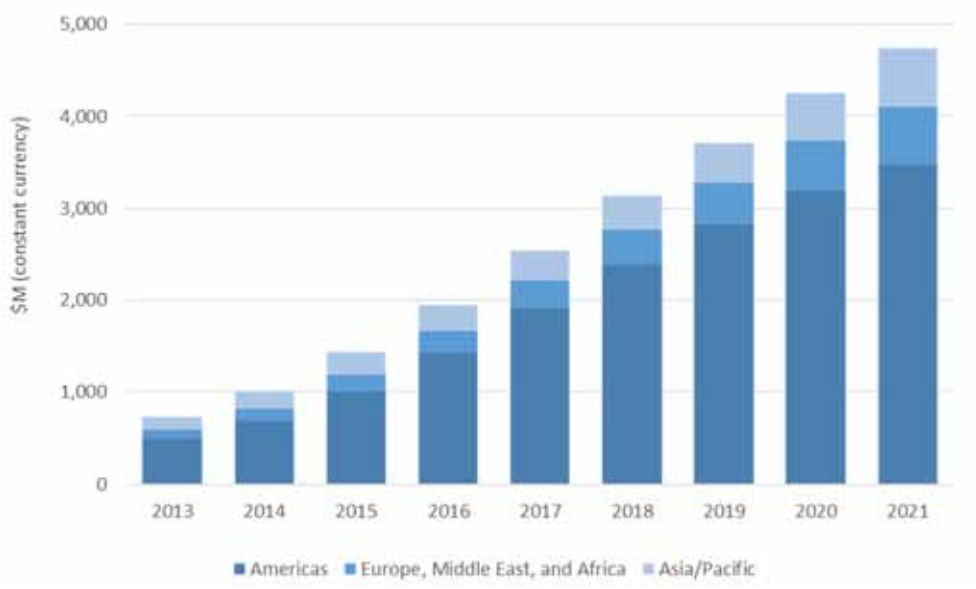
No-Code as Part of the Public-Model-Driven Application PaaS

Along with low-code, no-code application development defines the model-driven application platform as a service domain. Given that no-code development is normally delivered for consumption in a pure over-the-web fashion, it is part of the public-model-driven application PaaS.

Public-model-driven application PaaS spend to reach $4.7 billion by 2021.

Model-driven application platforms combine development and runtime into a single offering. They typically consist of graphical modeling environments and point-and-click configurations as well as relatively simple scripting. These environments are popular for rapid development as well as development teams that include both business participants and developers.

Figure 1: Worldwide Spending on Public-Model-Driven Application Platform as a Service



Source: IDC, 2017

Worldwide spend by end-user organizations on public-model-driven application PaaS was $1.9 billion in 2016, and this is expected to grow by 19.6% CAGR between 2016–2021 to over $4.7 billion in 2021. That means that relative to 2016, end-user organizations will more than double (2.4x) their spending on public-model-driven application PaaS by 2021. About 73% of the spend for public-model-driven application PaaS takes place in the Americas, with no major changes in spending share by geography expected to take place by 2021.

Key drivers behind the expansion in spend relate to the maturing of vendor products in conjunction with increased IT savviness of line of business and pressure from senior management to expedite digital innovation and bring more IT agility and automation empowerment at the department and business user level.

No-Code Versus Low-Code Versus Hand-Code

Development Environment Attributes and Differences

While low-code and no-code application development are often seen as the same environment, there are substantial differences between the two in terms of product attributes, which ultimately dictate the levels of technology accessibility and user approachability.

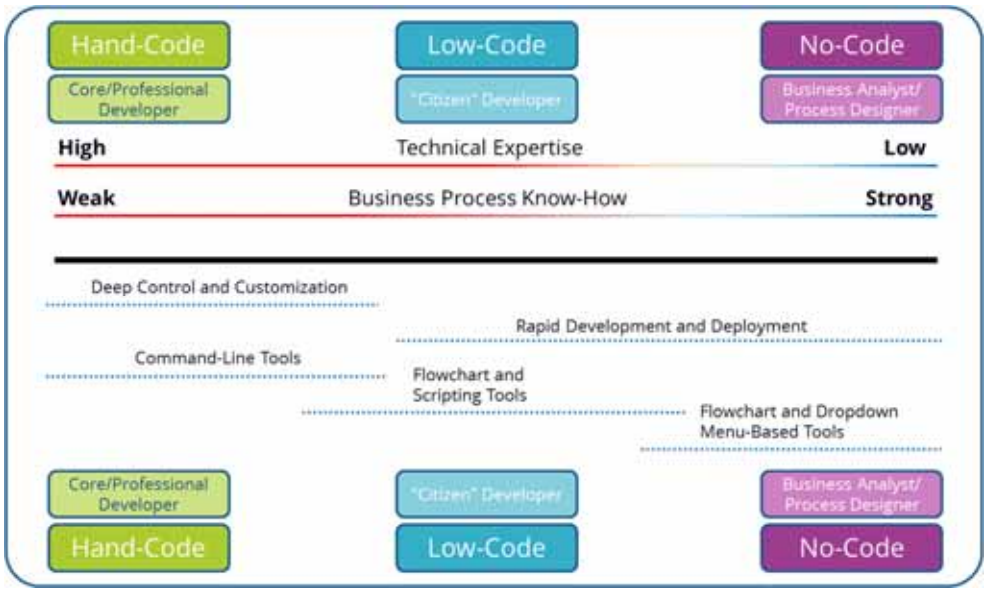
In low-code app development typically there is still a need to write scripts or have some understanding of source code and how to manipulate it, but in no-code there is zero coding/scripting when building application functionality. Because of the different levels of technical skills and understanding required, low-code and no-code cater to very different user profiles.

While low-code still requires some simple scripting capabilities, no-code can be picked up by users with no IT/technical background.

Low-code addresses the skills capacity of "citizen" developers. Relative to software-development-language-grade professional developers, who do hand coding within command-line interfaces, these are developers with lower technical expertise. Nonetheless, their IT or engineering capabilities are well above those of the average business user and in the process of low-coding they are required to perform or handle scripting to some extent.

In contrast, no-code is typically picked up by business analysts and process designers who have a strong understanding of business processes and business workflows, but have no coding skills or technical IT background. These users build application functionality using point-and-click flowcharts and drag-and-drop items.

Figure 2: Comparison of Different Approaches to Application Development and Deployment Platforms



Source: IDC, 2017

Using dropdown menus, business users can define workflow logic and conditional steps or statements into their process flows, and integrate with other application functionality or external sources based on open standard APIs. Using such tooling, no-code development can enable business users to create rich application functionality with sophisticated workflows.

Key Benefits of No-Code Development

No-code democratizes access to application development and eliminates the technical barriers that used to restrict business users from creating business automation in the way, and at the speed, that they have wanted. While a structured, design-thinking-led mindset may be required to build applications, no-code development welcomes business and knowledge workers from all walks of life.

No-code provides a low entry barrier to business application functionality development and deployment. Within the two to three weeks needed to become familiar with the features and functions of no-code environments, business users can start to build application functionality.

By empowering the business to create, adjust, and deploy application functionality to its own requirements and at its own speed, organizations can take a new approach to their pace of innovation. A lack of agility emerges all too often as a key pain point for companies of all sizes. While most organizations have been putting a lot of effort into improving their agility, including working to make IT more elastic and bringing it closer to the business, such challenges persist and are not easy to solve. One in three organizations in Europe, for example, indicate that creating an agile culture remains a major obstacle in executing digital transformation projects.

Figure 3: Major Obstacles in Digital Projects

Source: IDC, *European Services Survey*, 505 respondents, 2017

As no-code enables the line of business to create digital value with its own resources, and at the speed of its own ambitions and planning, the business gains direct control over time to functionality. Benefits resulting from such empowerment include shortening of the time needed to perform changes or incremental tuning of application functionality, with no need to wait in the IT queue to be served.

But beyond the agility aspect, no-code facilitates the ability to more intimately serve business needs. This is because application functionality can be designed by the people in the business. This can have implications at multiple levels, including

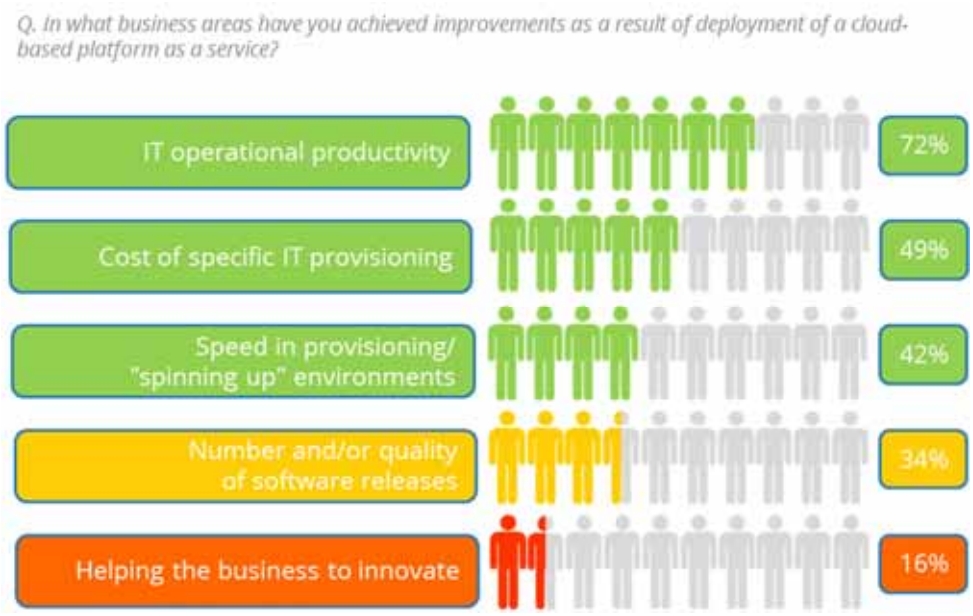
innovation capability, productivity and business operational improvements, and customer and employee experience and satisfaction.

Traditionally, business users have been contracting application functionality from the IT department or from external IT services providers that were either building it from scratch or were customizing a packaged application solution. Often, however, internal IT and/or external IT services partners have been alienated from the true business requirements of their customers (whether internal or external). Such a disconnect can result in business users not utilizing the built application functionality they contracted from IT, including wasted budgets for functionality that gets shelved. As no-code enables business users to design and deploy the applications they envisage and at the right time, there is likely to be higher ROI. In addition, there is likely to be a greater appetite to consume app functionality, since the user is the builder, leading to high functionality relevance for users.

Platform as a service, at a holistic and generic level, remains a domain very much for IT, addressing and serving the needs of DevOps engineers and professional developers. But while PaaS has been delivering improvements for these user profiles, there have been fairly negligible improvements in the business so far.

While servicing the needs of IT, deployment of PaaS may not yield immediate benefits to the business.

Figure 4: Areas of Business Improvement Following Deployment of PaaS



Source: IDC, *European Services Survey*, 250 respondents, 2017

Survey data suggests that generic PaaS solutions have brought limited direct improvements to the business so far, while meeting key technical IT metrics for users. That generic PaaS investments may have underserved the business can be seen in that roughly 1 in 10 organizations have improved their innovation capacity from a business standpoint. Simply because an organization deploys PaaS does not directly result in a greater ability to innovate in the business.

Furthermore, while IT key performance indicators (KPIs) such as IT productivity clearly tick the PaaS ROI box for the IT/development department, improvements in

other areas such as number and quality of releases have been realized by about a third of end-user organizations. From a business perspective, the number of software releases is tied to the ability of the business to have its functionality delivered on time and at the pace it needs it. The quality of the software releases can be interpreted beyond just the technical aspects of the software and as integral to the business processes and the qualitative attributes demanded by the business.

Such data points suggest that involving the business in application development is key, and that is what no-code application PaaS seeks to achieve by bringing the business right into the heart of functionality creation.

New Developer Profiles to Change Face of Application Creation

In addition to a shortage of IT resources and skills challenging enterprises, low-code/no-code has been significantly boosted by a widening of developer personas, with both citizen developers and non-IT developers being empowered to create business application functionality.

IDC predicts that these new developer profiles coming into the application development arena will change the nature of application creation.

> *Situational application needs will drive growth in the number of low-code/no-code developers by triple digits through 2021, with these non-traditional developers building 20% of business applications and 30% of new application features in 2021.*
>
> Source: IDC FutureScape, Worldwide Developer and DevOps 2018 Predictions, 2017

While both low-code and no-code will alter the landscape of application development, the key transformational aspect of such change will come from non-technical/business developers, as these users are both the creators and beneficiaries of the built digital value. Non-technical developers will help change the pace and business quality of application creation, with important implications on how enterprises operate, innovate, and differentiate in the market. Such implications include the competitiveness and attractiveness (both from a shareholder and talent recruitment perspective) of enterprises in the market.

WEM Company Profile

WEM is a leading no-code platform provider enabling application development and deployment. The company's product is a pure no-code environment, with users requiring no technical skills to design and launch consumption applications. WEM's typical user profile is the business analyst or process designer, but the product can be picked up by any user that understands business processes, with the training time required to start handling the WEM environment averaging two to three weeks.

Because both process workflow modelling/development and deployment/runtime are integrated fluidly, end users can seamlessly launch designed application functionality into consumption and/or change application functionality already in production. Charging/billing is fully based on an on-demand utility model, with end users paying for the consumed capacity of an application functionality (measured as page loads/API calls) rather than the traditional model of paying for development runtime/licensing and application runtime.

WEM's environment is web-based and is designed entirely with the web and mobile in mind, including capabilities to scale for the web and fit diverse mobile form factors, and, very importantly, to meet security requirements on the web. Governance around data separation, transport control, and process integrity comes by-design embedded within the platform's data privacy and security capabilities.

Integration is a key capability in the platform, with end users connecting application functionality to other internal (ERP, CRM, SCM, etc.) or third-party IT environments using open API standards. Integration is bidirectional, including the ability to integrate app functionality built using WEM into either other cascading WEM app functionality or non-WEM-built environments.

WEM's platform has been on the market for more than five years, and while the focus was on building and later maturing the product, over the past 12 months the company has begun to accelerate its market expansion efforts.

WEM's customers come from a variety of vertical markets, including sectors such as healthcare and insurance, making the platform appropriate for use for both non-regulated and highly regulated industries.

WEM is headquartered in Amsterdam, the Netherlands, and works with a worldwide network of distributors and partners to market and support its product around the globe.

https://wem.io

Conclusion

Over the next decade, the emergence of no-code application development is expected to disrupt the traditional application services value chain, and this is likely to have considerable implications for the enterprise.

Enabling business users to design and deploy automation in their business processes has the potential to change the way companies are organized and how they compete in the market, including the ability to develop digital value, innovate, and ultimately differentiate.

In addition to potentially affecting how companies value, set up, and (re)size their IT organization, no-code can have economic implications on procurement of third-party application life-cycle services, and on purchasing and licensing of SaaS/packaged applications and application development and deployment middleware.

As a side effect, no-code's direct business user empowerment is set to put even more pressure on the IT function and external application services providers, and raise the bar even higher in terms of expectations related to serving the business.

With no-code, engineering and coding are put into the background, while enterprise acumen and the ability to capture automation in the most intimate and timely fashion come to the fore. This vision has been around for many years, with the idea that IT would need to exceed its role as a mere support function by becoming more intimately engaged with the business. By democratizing application functionality creation for the business user, no-code provides the means to bring companies closer than ever to that vision.

No-code also creates a level playing field where small organizations can build complex application functionality that in the past was affordable to only large enterprises. While app development and packaged application customization used to be an expensive budget item, entailing hiring a dedicated pool of resources or contracting external services providers, no-code lowers the barriers to business process automation, as business users within SMEs can design, deploy, iterate, and optimize on application functionality as they need.

First, it was the office productivity and collaboration suites (e.g., messaging, word processors, spreadsheets) that empowered the average business users with specific automation, profoundly transforming the way organizations were run and did business. The emergence of no-code and its promise to democratize automation creation for the business worker has the potential to transform enterprises again, and probably even more profoundly.

IDC UK

5th Floor, Ealing Cross,
85 Uxbridge Road
London
W5 5TH, United Kingdom
44.208.987.7100
Twitter: @IDC
idc-community.com
www.idc.com

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