NTT DATA Perspective

Harness the flexibility of low-code for digital transformation

November 2023

The transformative power of low-code platforms

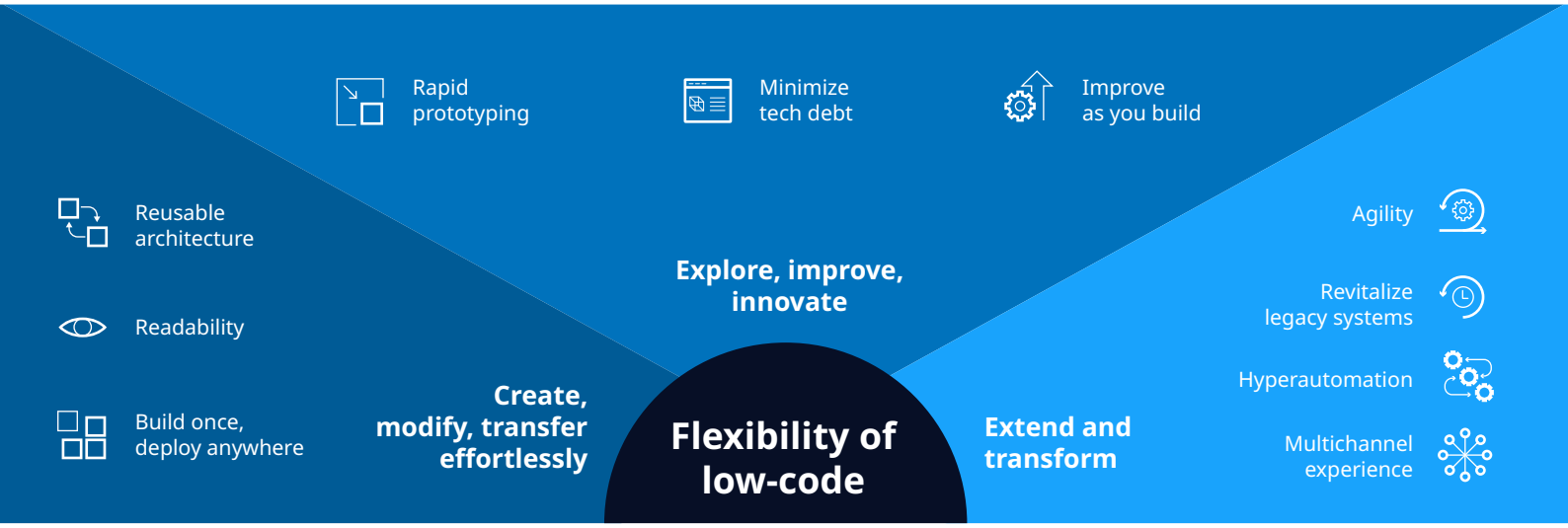
In the rush to the cloud for faster time to market, scale and cost reduction, low-code development and platforms level the playing field for large and small organizations alike. Low-code is fast emerging as a tool of choice for fast-tracking enterprise digital transformation. It gives you power through flexibility across the application lifecycle, whether it's development, management or maintenance. When appropriately leveraged, low-code reduces cost, improves the customer experience and helps you scale.

According to Gartner, the enterprise low-code application platform (LCAP) market is part of an overall low-code development technologies space, which is expected to reach $29 billion in revenue by 2025 (with a compound annual growth rate [CAGR] of more than 20%). Specifically, the LCAP segment is projected to expand to $14.38 billion in 2025, with a CAGR of 26.4%.[1] This trend represents one of the fastest-growing technology adoption cycles in IT industry history. There's been a steady uptick in the number of investments in and consumption of low-code platforms and services. Cost pressures for businesses, rapidly evolving client experience requirements and talent shortages are among the key factors continuing to increase adoption for low-code platforms.

It's also worth mentioning that the hyperautomation market is expected to grow rapidly, at a CAGR of 21.7% between 2021 and 2031, according to Sheer Analytics & Insights.[2] Besides being a key hyperautomation technology by itself, low-code is also the back end for other hyperautomation technologies, such as robotic process automation (RPA), intelligent business process management (iBPM) and artificial intelligence (AI) /machine learning (ML).

Before we wield the power of low-code, let's look at the traditional — or high-code — technology challenges that low-code helps resolve and how:

- High reliance on custom coding, low level of code abstraction and lack of native support for reusability and collaboration are the core reasons for cost inflation of application services.
- Rigidity of estimates, schedules and plans caused by the impact of deviations stifle both exploration and a best path-forward approach, constraining innovation. In other words, in the era of rapid prototyping and agile software delivery, traditional software shops lack speed and flexibility.
- Lack of technical agility to extend or transform existing capabilities and an absence of natural cross-channel integration demands significant effort to improve the customer experience.



Create, modify and transfer effortlessly

Low-code enables development without high-end engineering skills. Other features support building, refactoring, sharing and transferring ownership of the code with ease:

- **Reusable architecture.** Low-code platforms are designed for reusability. Existing assets can be reused across products through features such as a centralized code repository, collaboration and co-development mechanisms, auto-propagation of code changes across all instances of a reusable asset, pre-built application programming interfaces (APIs), and ease of maintenance and manageability.
- **Readability.** Low-code and no-code platforms offer the highest level of code abstraction available today; it's close to natural language. Coupled with visual design tools, this makes the application's code readable and paves the way for easier change of ownership, collaboration and co-development.
- **Build once, deploy anywhere.** Some enterprise-grade low-code platforms enable platform-agnostic application development. This capability helps you deploy the application across various platforms, operating systems and devices with minimal or no customization.

Explore, improve and innovate

Low-code enables you to experiment, improve and automate without significant effort and cost:

- **Rapid prototyping.** Low-code makes building experimental prototypes cost-effective in the quest for the best solution. You can try out different solution options without significant additional cost. This enables R&D, proof of concepts, better requirements gathering and innovation.
- **Improve as you build.** It's only natural to discover opportunities for improvement during development. Conventional technologies usually constrain the resolution of such opportunities. In the low-code world, flexible GUI-based modeling enables you to make improvements without significantly impacting your schedule or cost.
- **Minimizing technical debt.** Addressing technical debt takes up an estimated 40% of application development time.[3] Low-code minimizes effort and time spent on technical debt by handling tasks such as patches, upgrades, certificate management, compliance checks, compatibility, scalability, optimization and DevOps automatically. The modular architecture of low-code also optimizes build time on bug fixes and performance improvements.

Extend and transform

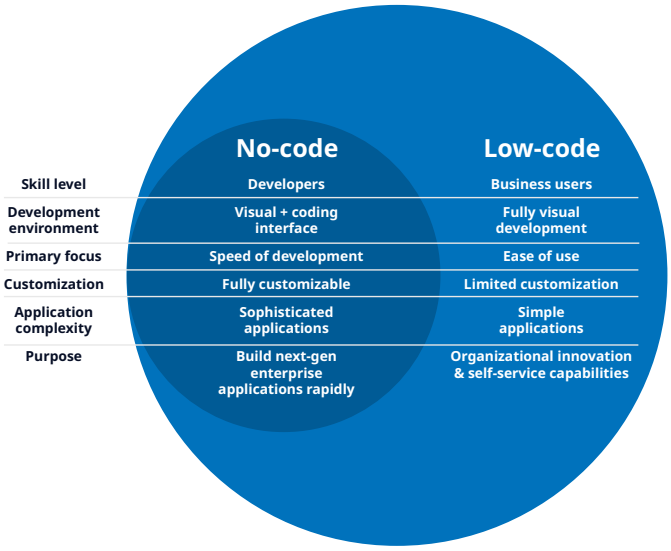
Above all, low-code supports business agility, capability extensions, and a better experience for employees and customers:

- **Agility.** Low-code allows you to pivot to new initiatives quickly in response to abrupt market changes.
- **Revitalize legacy systems without the cost.** Low-code can expose the capabilities and hard-to-access data of your legacy systems through seamless integration, extending the capabilities and value of these systems.
- **Hyperautomation.** Low-code drives most of the hyperautomation of business processes, process mining, data extraction and transformation, user and customer experience, and business solutions.
- **Multichannel experience.** The automated refactoring and templated component architecture capabilities of low-code help you create a seamless multichannel experience for customers.

How do you leverage this flexibility?

Whether your enterprise has already adopted low-code or is about to adopt it, there are a few things you must do to successfully leverage low-code:

1. Identify the areas where you want to apply it. Typical areas would be where you must keep adapting your code to handle regulations or market changes and areas that need transformation.
2. Focus on building your low-code competency, involving your existing talent base of both skilled and citizen developers.
3. Establish governance, guidelines, best practices, review mechanisms and principles for quality and security, as you would for any other technology.
4. Resolve to stay on the path of low-code adoption, building momentum as you go and reinforcing the culture of adoption across the enterprise.



What does the future hold for enterprises?

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The flexibility of low-code also drives its future. Low-code technologies are still evolving and have a ways to go before the metamorphosis completes. This is the underlying reason behind most large enterprises following a multi-LCAP adoption approach. With the focus on hyperautomation, AI-infusion into low-code is growing. As AI improves, low-code will also evolve. Several other movements are driving more changes. These include improved security and governance, integration with traditional technologies, demand for more domain or use-case specificity and deeper penetration into data-related processes. However, we're bound to see a convergence of low-code technologies and the emergence of a big few as the market matures.

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Let's get started

While jumping on the low-code bandwagon doesn't need any further persuasion, it's important to note that we're — unfortunately — still not at the point where just anyone can code. Enterprises will need a structured and/or advisory-led approach to successfully navigate low-code adoption.

That's why NTT DATA has established partnerships across all solution providers mentioned in the Gartner Magic Quadrant for Enterprise Low-Code Application Platforms. These include OutSystems, Mendix, Microsoft, Salesforce and ServiceNow. In fact, we've been recognized as a Leader in Everest Group's 2023 Low-Code Application Development Services for OutSystems PEAK Matrix® Assessment report, which evaluated 15 OutSystems low-code platform service providers.[4] This recognition underscores our commitment to delivering innovative, high-quality solutions that drive business value and accelerate digital transformation.

Visit our Application Development and Modernization page or Software Development With Launch by NTT DATA to learn more.

About the author

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Krishnakumar PK has close to 30 years' experience in the software industry, having played global leadership roles across product and application services. He blends a passion for technology and innovation with his wealth of experience across multiple industry verticals to help clients successfully deliver on their digital transformation initiatives.

Sources:

[1] Gartner®, Magic Quadrant™ for Enterprise Low-Code Application Platforms, December 31, 2022, [Paul Vincent, Kimihiko Iijima, Adrian Leow, Mike West, Oleksandr Matvitskyy.]

[2] Sheer Analytics & Insights. "Hyperautomation market insights, analysis, trends, and forecast 2021-2031." November 2021. https://sheeranalyticsandinsights.com/market-report-research/hyper-automation-market-21

[3] Sven Blumberg, Rahul Das, Rob Patenge, Jens Lansing, Nils Motsch and Björn Münstermann. "Demystifying digital dark matter: A new standard to tame technical debt." McKinsey Digital. June 23, 2022. https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/demystifying-digital-dark-matter-a-new-standard-to-tame-technical-debt

[4] NTT DATA. "We're a Leader in Low-Code Application Development." https://us.nttdata.com/en/engage/we-are-a-leader-in-low-code-application-development

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