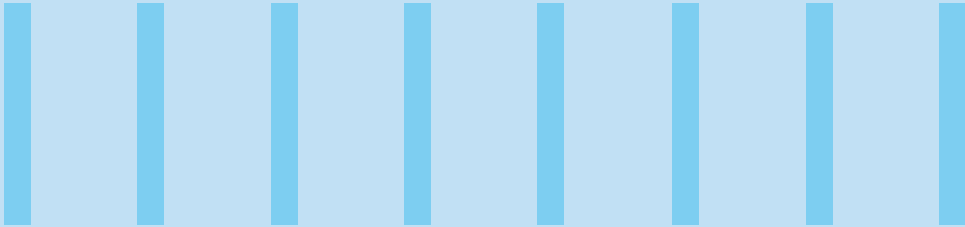




RIDING THE LOW-CODE NO-CODE WAVE





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Lowering the barrier between users and technology is one of the holy grails of computing. Low Code No Code (LCNC) technology has moved us closer to the goal by allowing business users to own (read control) the software they use.

Just as mobile devices and apps have become more and more intuitive, business software too is moving towards a paradigm where users can manipulate and modify software programs without recourse to enterprise IT teams. The resumes of the near future will checklist LCNC skills, much the way spreadsheet proficiency was touted a decade ago.

How big is the LCNC movement? The LCNC market is expected to grow at a 27.8% compound annual growth rate to \$148.5 billion by 2030 .¹ The growth is being fueled by the thirst for apps and a drive towards digital transformation triggered by the COVID-19 pandemic. The pandemic has forced enterprises at all scales to re-align business strategy – for IT to follow suit without missing a beat, LCNC platforms represent a vital solution. Gartner’s prediction that low-code platforms will be responsible for more than 65% of all app dev activity by 2024 is, therefore, not surprising.²

What's driving the uptake?

Information technology is in a constant state of transformation, with waves of disruptive technology rolling, one after the other. Barely had firms got their arms around their strategy for cloud and begun pegging down plans for IoT when game-changing AI rolled in. The situation calls for agility, and that is what LCNC delivers. According to analyst firm Forrester, LCNC development platforms have the potential to make software development as much as 10 times faster than traditional methods.³





The COVID-19 pandemic accelerated the transition to the online universe for retail and enterprise firms. This added to the pressure on internal technology teams while managers grappled with attracting and retaining talent in a red-hot job market. By broad-basing ownership of IT applications with the business side, LCNC reduces the pressure created by talent shortage. It also allows companies to take new ideas to market instead of letting them languish in the black hole of the IT department's backlog.

Meet the early adopters

LCNC is not a completely new business idea. It has existed, a part of an organization's shadow IT, in applications like spreadsheets used by business teams for day-to-day work as well as to 'patch' gaps in legacy applications. These internal, intra-organizational apps for record keeping and increasing productivity are seeing a lot of LCNC action. The success of these low-hanging fruits will spur companies to build the ultimate apps at the enterprise level for customers. Another pathway of adoption will be using LCNC to prototype new ideas.

But the shift from support to a major role is already underway. A 2022 survey commissioned by LCNC platform developer Mendix across companies representing diverse industries in Europe and the US showed that LCNC adoption among them had jumped to 94%, up from 77% in 2021⁴. Among these early adopters are finance, banking, and insurance companies, using the technology to automate quote services and simplify processes.

The most important areas where LCNC is delivering benefits to these industries are quote automation, increased efficiency of the purchase process and enhanced customer experience. In addition, for retailers with a global presence, LCNC gives regional operations the tools to develop automation and apps that align with demands in their markets and workforces.

At a functional level, LCNC is being used to patch white spaces within Enterprise Resource Planning systems (ERPs) to connect functionality such as invoice processing, master data management (MDM) and claims spread across different core systems. Unlocking value in existing applications is among the reasons why 95 % of the respondents in a 2021 HFS-Infosys survey of 150 professionals involved in LCNC adoption from Global 2000 enterprises, said they were exploring or already using LCNC solutions.

Another important play for LCNC will be in legacy modernization - 33% of those surveyed in the HFS-Infosys study saw LCNC as essential for replacing/modernizing legacy core systems.

"With few coders working in SAP ABAP, COBOL, or C++, delays in fixing deficiencies in these programming languages have plagued many business requests for new features. With low-code platforms, software teams can focus on the objects and data that

deliver value—not thousands of lines of custom code in core applications"; the report points out.

The Mendix report points out that companies are using LCNC to replace home-grown legacy systems in quality or manufacturing processes, while many (63%) are using it to mitigate transportation, logistics, and supply chain issues. LCNC allows building piece by piece over the core instead of a massive effort over the entire legacy system – this makes it easier to retire the legacy.

What holds companies back?

The frustration with legacy systems is also why LCNC adopters want proof that low-code will integrate with older systems. Another challenge that could delay the adoption of LCNC is concerns over proprietary technology – this raises concerns about transitioning from such systems in the future.

Overlaying this are concerns over vendor lock-in, especially when some suppliers themselves are relatively newcomers to the IT market. Another inhibitor to adoption is the lack of training on how to use LCNC solutions – 62% of respondents in the HFS-Infosys survey said that they did not have access to such training.

Enterprises are also aware that while low code delivers agility, it comes at the cost of flexibility – LCNC is effectively a playpen where your game is restricted to a few orchestrated moves. To make this work for enterprises used to feature and domain rich software, LCNC platforms will need to get more industry specific – even low code market leaders are not geared to serve all enterprise needs yet as they are still in the nascent stage. But specialized players – such as the Unqork and Neutrinos platforms for the insurance and financial services markets – are emerging.

Companies that need the agility and fast time to market delivered by LCNC – a need that overrides some of the issues raised above – still need to invest in a protracted change management initiative to overcome internal bias and apprehensions about adopting new tools. The good news here is that, as companies see investments in LCNC as strategic, these decisions are typically driven by the C-Suite, which bodes well for the success of the change initiative.

Choosing the right platform

For most buyers, LCNC platforms are a completely new play – so how do you choose the right partners? A McKinsey and Company analysis points out that a chosen platform must be “intuitive and support collaborative development from start to release.”⁵ In addition, it should have ready-made out-of-the-box connectors available for major third-party systems as well as the “ability for other downstream systems to connect to the platform via APIs and to create data exports for analytics use cases,” the analysis concludes.



A large part of making the right choice is how enterprises regulate their LCNC initiatives. A good policy might be ‘Governance First, Build Next’ - democratized app development by citizen developers needs to be balanced with enterprise grade app quality delivered by pro developers. According to a Gartner forecast in their report “Future of Applications: Delivering the Composable Enterprise,” citizen developers will soon outnumber pro developers at large enterprises by a ratio of 4 to 1⁶. Regulation is therefore needed to avoid the mushrooming of many apps as these can become unmanageable without the requisite processes and controls. A few clear protocols and deployment of mixed teams of IT and business who can work at different levels – pro code, low code and no code - would also help. While pro code teams can focus on foundation services like API authentication, low code teams can be deployed on more abstract functionality like integration, with no code teams focused on configuration and embedding business logic.

Transitioning business users to development work at the no code level can be simplified with model driven development - business users could be assigned to configure models by wiring together pieces using processes set up by pro coders.

These and other solutions will evolve as more enterprises embrace LCNC. And that they will give the shortage of pro coders. On the business side, expect coding skill sets to become as ubiquitous as spreadsheet prowess. Cloud is expected to drive the use of LCNC, with cloud platform providers expected to offer byte size APIs to integrate functionality more quickly, making ‘coding’ similar to the assembly of Lego blocks. The scope of LCNC is also expected to widen, with business users progressively handling more complex requirements. Vertical focus will also sharpen as more domain specific platforms become popular. All of these will democratize app development, and by co-opting users in technology design, the way social media made customers the content creators, LCNC has the potential to make business software design even more intuitive and organic. As Chris Wanstrath, CEO, GitHub, put it, “The future of coding is no coding at all”!

Validation imperatives for LCNC

- **Security and Compliance:** Low code doesn’t have to mean low risk. With more hands on the coding deck, businesses will need to deploy safeguards so that regulatory compliances, including those relating to end customer privacy, are met. At the same time, enterprise standard IT security protocols must also be adhered to. The challenge is that some of the most intuitive LCNC platforms are also closed source, giving administrators minimal control over privacy and compliance.
- **Scalability:** Quickly built low code apps may not always scale in the same way software developed in a true programming language does. This could be a problem in the case of unexpected, though welcome, popularity. Some problems arise from a lack of testing discipline and can be addressed through IT-moderated citizen development.
- **Usability:** Low code applications developed outside the ambit of standard IT dev protocols may not be put through the typical usability and testing drills. While some UX issues can be addressed by onboarding the right LCNC platform, a well-defined testing strategy and UX check for low code is needed to address risks enhance overall customer experience.



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