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LOW-CODE AND NO-CODE: AN OVERVIEW



To understand how low/no-code tools can transform a business, it's important to get an overview of what these tools really are. In short, the defining characteristic of low/no-code is in the name itself; these tools simplify software development by taking away most or all of the hard-coding aspect. In essence, by compartmentalizing the coding process into an intuitive, modular process, low-code and no-code tools offer a more agile alternative.

As a result, this alternative is a godsend for businesses looking for a versatile approach that keeps up with rapidly-changing demands and/or trends. By simplifying the development process, low/no-code allows a company to be more responsive and adaptable in their respective needs. In addition, it opens the floor up to "citizen developers"—or non-IT contributors—due to the less stringent required expertise. Of course, if you're looking to fill highly specific and demanding requests, the traditional route might prove more promising, though more resource-consuming.

Effectively, the benefit of low-code is in the speed at which business value can be created. LC/NC tools allow businesses to deliver business value quicker whilst allowing them to continually build on created software intuitively. Nowadays, companies simply can't wait a year to develop new software, so hand-coding every step is often not an option. Low- and no-code tools are guaranteed to generate value faster and more predictably when needed.

As a whole, adopting a LC/NC-driven strategy could vastly change a business. For one, LC/NC integration can better prepare a company to adapt to changing trends and demands, making for a more resilient and agile business model. On top of that, it simplifies **cross-departmental communication and collaboration—something that 94% of companies¹ reported as critical to their success**—in a data-driven yet intuitive manner. Essentially, a savvy integration of low-code and no-code tools can prove to be a long-standing benefit, uniting all facets of a business with a clear direction.



LOW-CODE AND NO-CODE: AN OVERVIEW



Key features to look for in LC/NC platforms and main differences

	A LOW-CODE PLATFORM	A NO-CODE PLATFORM
User interface builder and visual modeling	+	+
Drag-and-drop interfaces	+	+
Reusability	+	+
Cross-platform accessibility	+	+
Scalability	+	+
Security	+	+
Ability to add custom code	+	-
Ease of use	***	*
Smoothness of platform updates	Customer may need to change/ update custom code	+
End-to-end development	+	Some platforms provide only limited capabilities
Designed for	Developers	Business users



KEEPING UP WITH TECH TRENDS

It's no secret that changing technology has a massive impact on the market and how businesses operate within it. The advent of technological breakthroughs like radio, television, and computing revolutionized entire industries with regards to advertising, business management, and customer relations (to name a few). The Internet and all the subdivisions that come with it—social media, search engines, etc.—have had a monumental effect on trends in retail and business.

Indeed, a more technologically-woven market has meant an ever-growing base of tech savvy consumers. As a result, the average consumer today has considerably more information available to them than, say, a decade ago, shifting the balance when it comes to how businesses cater to their customers. With the amount of information and options available, consumers hold the cards, and it's up to businesses to offer the most convenient, personalized, and financially sound options to stay competitive.

For example, take the e-commerce boom in the last decade. **This time last** year, 35-40% of shopping² was being done through websites or mobile apps; this shift is forcing businesses to turn to multi-channel or omni-channel approaches. Nowadays, it's practically a necessity for consistent growth—especially so over the last year of lockdowns—as online shopping is muscling out brick-and-mortar stores by the day.

Such creeping industry-wide shifts can vastly alter market expectations and test the longevity of a business. As consumer needs and expectations change (often catalyzed by technological progress), it's crucial for businesses to adapt quickly and effectively to meet them. As such, low-code and no-code tools can truly be the backbone of a successful and long-lasting business model, potentially giving businesses the flexibility they need to adapt effectively.



KEEPING UP WITH TECH TRENDS

Tech challenges companies around the world are facing now & how LC/NC can help

Tech challenge	How LC/NC helps
Legacy systems and outdated infrastructure	Modernization Low-code platform allows you to build add-ons or additional applications on top of your legacy system
Siloed data and lack of visibility	Single source of data Integrate systems via the REST API in order to create a unified database
Lack of agility and speed	Hyperautomation LC/NC platforms allow for rapid application development and have next-gen features like AI & ML tools
Integrations and upgrades	Easier integration and regular updates LC/NC provide a lot of pre-built connectors. The processes of regular updates become easier with built-in application lifecycle management tools
Ensuring data security	Eliminate shadow IT LC/NC lower the risk of data leakage as business users are able to build app they need on a single platform and the IT oversees the whole process
Technical debt	Accelerate development cycle As there is no need to code line by line and a lot of objects, app sections, processes can be reused, developers can build apps faster
Maintenance burden	Lower maintenance burden With standardized, pretested, and ready-made components, there are much lesser issues developers should deal with daily
Business-IT collaboration	Business-IT alignment With no need for hand-coding, business teams become more involved in the development process
Tech talent shortage	Citizen developers Create citizen developers out of business users
Hight IT costs	Lower IT budgets No need to buy new application as a new use case arises and no need to hire external experts to create a new tool



THE PANDEMIC: SHIFTING TRENDS FURTHER

As briefly noted previously, the pandemic and subsequent lockdowns have greatly impacted business as a whole. Working from home, ordering exclusively online, and conducting meetings through video conferences have become all too familiar over the last year. Unsurprisingly, this has forced practically the entire market to adapt to what effectively became the new norm. In fact, a year on, 90% of surveyed executives³ see a future in a combination of remote and on-site work as a result of this disruption.

Businesses have had to consider how to keep productivity and operations at an acceptable standard despite the massive obstacles in the form of lockdowns, social distancing, and stay-at-home orders. Jobs requiring face-to-face or crowd interaction have understandably taken a significant hit⁴. Those with sufficient top-to-bottom tech integration were able to thrive despite the pandemic, however, with others scrambling to adapt. **As per KPMG, 80% of UK industry leaders⁵ have seen their digital transformation accelerate in these times.**



The pandemic has been a market disruptor like no other, as it hit more suddenly than any tech trend possibly could. In the US alone, 17 million people⁶ may see their job lose demand, while 100 million globally might need new skills to adapt. It has been a massive wake-up call for many businesses about the importance of adaptable and scalable business models. As an example, food delivery services effectively became a necessity during lockdowns; those flexible



THE PANDEMIC: SHIFTING TRENDS FURTHER



and scalable enough saw further growth opportunities within new market demands—be it expanding their partner base or their list of services.

Low-code and no-code tools are now, more than ever, something that businesses are turning to. LC/NC is practically perfect for this pandemic-affected market, as it pairs perfectly with automated workflows, department interconnectedness, and business flexibility overall. As a result, it's no surprise that the low-code development technologies market alone has grown over 60% since 20197 (per Gartner). What these tools offer allow companies to more effectively tackle the ever-more personal and event-driven demands of a growingly tech-savvy consumer base.

How the pandemic affected different industries

Industry	The COVID-19 disruption
Financial Services	EY8: Since the lockdown we have seen a 72% rise in the use of fintech apps in Europe.
Manufacturing	Accenture ⁹ : 94% of Fortune 1000 companies are seeing supply chain disruptions from COVID-19
Professional Services	IDC¹⁰: Worldwide professional services revenue declined 1.16% YoY in 2020. IDC now expects the services market to have a strong rebound in 2021.
Hi-Tech	According to Deloitte's ¹¹ Q2 2020 CFO survey, 85% of respondents indicated that an increased percentage of their company's workforce will work remotely postpandemic.
Telecom	According to KPMG UK ¹² , during the peak of isolation, Europe saw a spike in internet traffic, going to as high as 70% in 2-3 weeks.
Healthcare & Pharma	Health Affairs ¹³ : Telehealth visits accounted for approximately 30% of total outpatient visits early in the COVID-19 pandemic.



THE EVER-GROWING IMPORTANCE OF A VERSATILE APPROACH



While the pandemic has single-handedly altered how most businesses operate, in a sense it has only expedited the pressures of an existing market trend for many industries. Growing consumer demand for personalization, convenience, and a streamlined multichannel system isn't exclusive to the pandemic—we have already been seeing this trend for some time, albeit not quite as urgently.

The incredible success of companies that adopted an omni-channel model outlined just how important a versatile approach is in the modern world. Customers expect cross-platform integration, transparency, and personalization without a dip in service quality. As a result, it's difficult in some industries to even fathom a rigid, inflexible business model. We are beginning to see a shift to adoption of low-code methods as a result; **Gartner estimates that 50% of medium to large enterprises**¹⁴ **will adopt low-code methods in some form by 2023.**

50% OF MEDIUM TO LARGE ENTERPRISES WILL ADOPT
LOW-CODE METHODS IN SOME
FORM **BY 2023**



As technology continues to evolve, customer expectations only grow. Chatbots, mobile apps, and on-demand personalized service were a welcome novelty some years ago; now, it's commonplace enough to be expected. With how technology and expectations are progressing, intuitive and flexible business-to-consumer interfaces are key in keeping a customer base engaged and interested.





THE EVER-GROWING IMPORTANCE OF A VERSATILE APPROACH



Considering all this, it's easy to see the technological strain it can take on a business. While hard-coding software perhaps remains the better alternative if you're looking to create software for delicate specifications, a LC/NC approach is more suitable to keep up with the aforementioned changing trends and expectations. The flexibility, responsiveness, and omni-channel possibilities of LC/NC integration stems from its inherent simplicity.

Compared to traditional software development, low-code tools use intuitive interfaces and drag-and-drop functionality to offer a simpler approach to software creation. This "out-of-the-box" approach of modular development opens up the possibility for both professional and "citizen" developers to create apps of varying complexity quickly to suit business needs. In fact, nearly 60% of custom app development¹⁵ now is done outside the IT department. In addition, low-code and no-code tools can be used by both types of developers to automate relevant processes and waste no time on debugging or testing. In short, LC/NC tools offer heightened responsiveness, a diverse development team, and time-efficiency when developing on-demand software.

People Become:	Processes Become:	Software solutions are:
Adaptable and more accountable	Efficient	Responsive and fast to load
Digital-Savvy	Agile	Up-to-date
Innovative & Inspired	Effortlessly orchestrated	Diverse
Highly productive	Aligned	Deployed at lower costs





LOW-CODE AND NO-CODE: OPTIMIZING THE VALUE OF TIME

With roughly 1.7 billion information workers¹⁶ in the world today—all of which are likely to use at least one piece of software daily—the demand for software apps is unsurprising. In fact, Microsoft predicts that **500 million apps will be built over the next 5 years;** to put that into perspective, that's more than the number of apps over the last 40 years. So, with the skyrocketing demand for software development and a finite number of established IT professionals, there's a demand gap to be filled.

With low-code/no-code tools, not only does software development become more intuitive, but the effective task force increases vastly. By lowering the requirements for software development through modular LC/NC methods, non-coders are able to automate their own work rather than relying on IT professionals. As such, **LC/NC tools can greatly accelerate software development—up to 10 times**¹⁷, according to Forrester.



X10 THE ACCELERATION

OF SOFTWARE DEVELOPMENT WITH LC/NC TOOLS

In essence, low-code and no-code integration is the foundation on which a business can develop and re-imagine their business model. The intuitive and time-efficient nature of LC/NC tools can bring each department in tune with a well-defined business plan. From marketing to logistics to sales, each department could better understand the other and collaborate transparently and efficiently with the same streamlined tools.



LOW-CODE AND NO-CODE: OPTIMIZING THE VALUE OF TIME

With intuitive LC/NC tools, any proactive employee could, effectively, improve their work efficiency with no coding or outside help. For example, someone who works in marketing or sales could quickly and easily create custom campaigns for different customer groups. Workers can build onto their software to improve their productivity as easily as stacking Lego blocks. Just a decade ago you would expect companies to purchase or license software to meet their needs, be it customer expectations or effective marketing campaigns.

As previously mentioned, nearly 60% of all custom apps are built outside of the IT department, with 72% of low-code development¹⁸ taking just 3 months or less. In the coming years, it will be more common to see businesses making their own software in-house, at a faster rate, lower cost, and in a flexible manner—all tailored for that specific business and its needs.

60% OF ALL CUSTOM APPS

ARE BUILT OUTSIDE OF THE IT DEPARTMENT

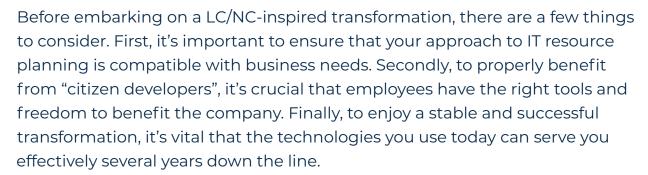


72% OF LOW-CODE
DEVELOPMENT TAKES JUST
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HOW LOW-CODE/ NO-CODE TRANSFORMS THE WORKPLACE



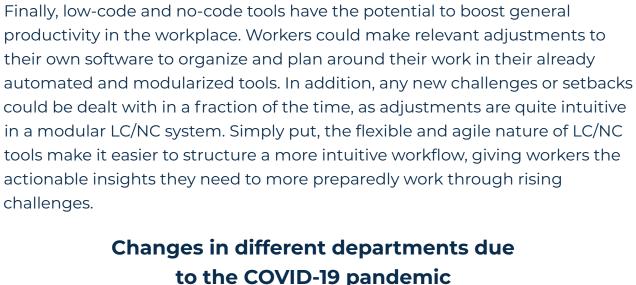
Traditionally, IT departments exist as a separate branch, with the purpose of supporting other departments with tech-related issues. With LC/NC integration, however, each department could well become its own capable IT team. As each member works and develops with the same intuitive tools, departments get a chance to become familiar with case-specific software development and, in effect, be their own "IT support". This invites the chance to reimagine the value of IT within the company, as (according to McKinsey) only 10% of IT¹¹¹ today is utilized for value generation.

By lowering the expertise required, complexity, and resource constraints from a task, general unpredictability also plummets. This allows the IT department to expect a consistent if unremarkable work schedule, as it would become unlikely to see massive projects or crucial fires to put out. IT staff would then play a key role in overlooking integrations and consistency across the board, acting as the foundation for a digital transformation.

In-house "citizen developers" would also enjoy a consistent, more streamlined, and less stressful work life, opening up the possibility for work-from-home time (something that was made quite important during lockdowns). The growing familiarity of workflow automation and digital forms would make room for flexible work options under an interconnected LC/NC system, increasing flexibility across the board.



HOW LOW-CODE/ **NO-CODE TRANSFORMS** THE WORKPLACE

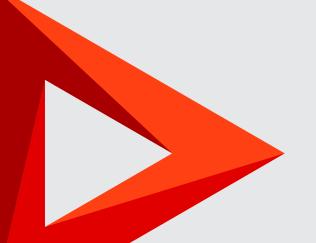


to the COVID-19 pandemic

Department	Changes due to the COVID-19 pandemic
Sales	 Face-to-face meeting were replaced with online meetings Spikes in digital sales Disintegrated teams Onboarding process became harder The focus shifted to customer retention McKinsey & Company²⁰: More than three quarters of B2B buyers and sellers say they now prefer digital self-serve and remote human engagement
	over face-to-face interactions Forbes ²¹ : Online selling is a permanent change
Marketing	 Marketing budgets have been cut Growth of web and mobile traffic Canceled offline events Need for new marketing strategies Personalization is important more than ever
	Deloitte²²: 14% of shoppers are making purchases through social media. The 2021 Global Internet Map²³: The COVID-19 pandemic drove the peak traffic growth rate to 47%



HOW LOW-CODE/ NO-CODE TRANSFORMS THE WORKPLACE

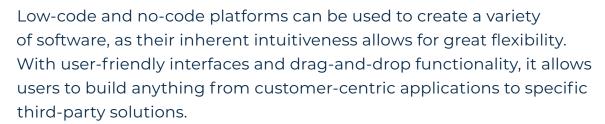


Changes in different departments due to the COVID-19 pandemic

Department	Changes due to the COVID-19 pandemic
Customer Service	 Focus on care and concern Help customers weather the crisis Digital functionalities to ensure continuity of services Real-time pulse on changing customer preferences Increasing need for next-gen technologies Gartner²⁴: Currently, only 9% of customer service experiences are fully resolved by self-service Research from PwC ²⁵ shows that 32% of customers will walk away from a brand they love after a single bad experience.
ΙΤ	 Support remote work Provide self-service options Tackle security issues Stabilize critical infrastructure, systems, and processes Cost-reduction measures Forrester²⁶: 52% of employees said their company lacked the technology to support remote work McKinsey²⁷: IT costs can be reduced by up to 30 percent by taking a "bare minimum" approach that allows IT to continue operating at planned volumes but not more
Operations	 Protect companies' cash flows and employees Ensure business continuity Rebuild and adjust business processes Reforecast the need for companies' mission-critical products and services Identify innovations Gartner ²⁸ : the coming two years will see a dramatic, 50% spike in enterprise data that's not only distributed but both created and processed outside the data center. Beekeeper ²⁹ : Workers waste an average of 3 hours of paid working time per week looking for information.



THE USES OF LOW-CODE/NO-CODE



Building a company-wide app for various business tasks is certainly not easy, but low-code tools can help bridge that gap. From the simplest customer-focused undertakings to complex business processes, **LC/NC** tools prove to be³⁰ a flexible, personalized, and effective option.

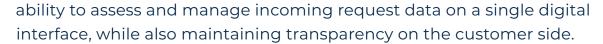
For example, if your company is left wanting when it comes to its digital transformation, low-code tools could be the solution. With the help of such tools, a multinational energy management and automation solutions provider was able to deploy **60 new apps** in under a year to aid front and back-office operations.

If the goal is to **take data integration to the next level,** LC/NC is perfectly suited to that as well. A branch of the US military used low-code technology to implement a contract management system, replacing seven legacy systems in its previous place. Furthermore, LC/NC tools are compatible with machine learning algorithms that can help process meaningful data without the headache.

When it comes to end-to-end process visibility, low-code tools have that covered as well. A leading American driver assistance provider used a low-code platform to create a mobile-friendly web app for roadside assistance request processing. This essentially gave the company the



#THE USES OF LOW-CODE/NO-CODE



To summarize, one could essentially create any operations-related app they want with low-code/no-code tools. Wherever there's data, there is an opportunity to make sense of it—and low-code is there to build upon that. From operational efficiency to customer engagement analysis, LC/NC tools can help you identify and simplify any day-to-day headaches with ease.

What you can create using low-code platforms

- Customer engagement apps
- Operational efficiency optimization apps
- Business processes
- UI, data model & business logic
- AI-bases solutions



Creatio

IN SUMMARY

Low-code and no-code are the new generation of development tools. They cut down on time, cost, and general inefficiency. With these tools, a disjointed collection of specialized departments could transform into collaborative, flexible, IT-capable teams. Citizen developers and the hassle-free app development that stems from top-to-bottom low-code integration can make day-to-day work more flexible, predictable, and efficient.

It might be a challenge to even consider switching to low and no-code tools, but in truth, there is no better time than now. As shown by tech and retail trends in the 21st century and the recent market disruption on account of the pandemic, being versatile and flexible is key. Customer demands and expectations can change year by year, and being adaptable and amenable as a business is crucial for growth. With LC/NC, the shift to an agile business model could begin right in the office.

As noted by Gartner, as much as 2/3 of development³¹ will be done in-house with LC/NC tools within 5 years. It's no surprise—using the power of "citizen developers" can vastly cut down on costs and idle time. While it might be daunting to consider a shift from traditional software and coding to low-code/no-code, it's a good choice to make for the long-term success and resilience of your business.

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ABOUT CREATIO

Creatio is a global software company providing a leading low-code platform for process management and CRM. The company offers three products on one platform to connect the dots between marketing, sales, service and operations. The system delivers end-to-end processes to manage the complete customer journey - from lead to order to continued customer service excellence. Creatio products are backed by a robust low-code platform. Building apps and changing processes in Creatio is easy - you don't need to be an IT specialist and there is few to no coding. Creatio offers the agility to continually test, modify, and improve processes to keep up with the new business environment.

CREATIO SUPER POWERS



to change processes faster



to make everyone

a developer

LOW-CODE PLATFORM



UNIFIED CRM

to align sales, marketing and service



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