Can low code and citizen developers accelerate DX in APAC?

By **Samuel Abraham** - May 30, 2023
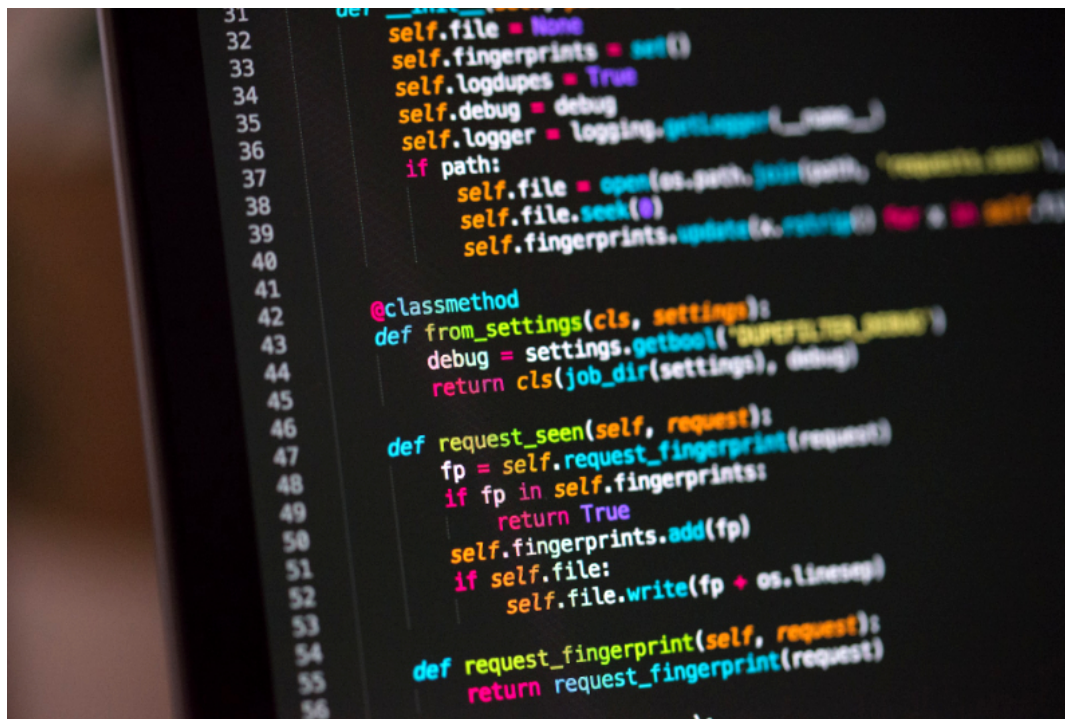

Image courtesy of Chris Ried.

The COVID-19 pandemic has accelerated the need for digital transformation (DX) to enhance organisational resilience against market and technological disruptions. However, companies in the Asia-Pacific region face a persistent shortage of technology skills, particularly as they transition from DX 1.0 to DX 2.0.

According to a recent IDC report titled "Enterprise Automation to Mitigate the Digital Skills Shortage," around 60% to 80% of organisations in APAC find it difficult to fill vacancies in IT roles, exacerbating the the challenges to achieve strategic business agility through DX in the post-pandemic world.

Consequently, enterprises in APAC are increasingly relying on low-

code and no-code (LCNC) application platforms. These platforms enable organisations to expedite product and service launches while allowing for swift modifications to applications based on specific business requirements, with minimal disruption to operations.

"As technology continues to advance, the shortage of skills will widen the gap and increase the demand for talent," explained Charles Loh, Singapore Consulting Leader at PwC Singapore. "To address this challenge, LCNC platforms can bridge this gap, enabling users to create applications without the need for extensive coding knowledge."

Why LCNC platforms for DX?

LCNC platforms can reduce the turnaround time for developing new applications by up to 90% — from well over six months to under four weeks, according to a Pathfinder Research report commissioned by RedHat. Development success rates with low code are also reportedly higher.

"Companies opting for LCNC platforms will notice a 10x success rate – in terms of cost and time saved. Whereas if you take traditional development, the success rate is as low as 30%. The success rate is more important than the time it takes to complete the project," noted Dinesh Varadharajan, Chief Product Officer of Kissflow, a global low-code platform software company.

Low code can also help small and medium businesses (SMBs) to step up their DX game. Recognising the importance of SMBs in driving economic growth, the Singapore government has prioritised their DX efforts. A study commissioned by Cisco of 1,424 SMBS in APAC found that implementing DX strategies in SMBs could contribute up to US$3.1 trillion to the region's GDP by 2024 through increased revenue and productivity gains.

Charles Loh, Singapore Consulting Leader, PwC
Singapore. Image courtesy of PwC Singapore.

"In fact, by requiring fewer resources and less technical expertise, low-code platforms empower SMBs — who are key to Southeast Asia's economy — to innovate and compete. Additionally, LCNC platforms enable businesses to leverage automation, improving efficiency and streamlining workflows," said Gibu Mathew, GM APAC at Zoho, a provider of over 130 low-code productivity platforms.

Dinesh Varadharajan of Kissflow highlights that, in addition to addressing the skills shortage, technology teams in APAC can tackle the challenge of limited IT bandwidth, which puts their DX efforts under pressure.

"Most organisations have specific needs, and their IT bandwidth is often consumed by maintaining core, complex systems such as ERP and CRM. However, it is equally important to address other key functions like procurement, finance, and administration, which also require automation," said Varadharajan.

Varadharajan adds that while LCNC platforms help in digitising key functions of the enterprise, it is important to note that they are not a comprehensive solution on their own. These platforms, however,

contribute to easing the workload on IT developers and reducing backlog.

Leveraging existing technologies becomes easier

One way to leverage low-code platforms is for DX projects focused on improving customer experiences. Agile low-code platforms help companies and customers derive mutual value from the organisation's existing infrastructure while targeting faster DX.

Zoho's Gibu Mathew said that low-code tools can increase the value of existing applications by providing an interface between important legacy tools and new convenient front ends for consuming services. "Companies with limited IT talent need help integrating their low-code applications with legacy systems and other data sources. In this regard, they may need to consider engaging an implementation partner or building their own expertise in-house," he advised.

In the face of changing organisational priorities, hyper-personalisation strategies, and business plans, developing a bolt-on application over legacy technologies is highly challenging, remarked PwC's Charles Loh. "An agile, low-code app building platform allows citizen developers to easily and quickly add modular functionality as the organisation's and users' needs evolve. The emphasis is on being "fit for purpose" rather than starting from scratch.

Where should companies start with their low-code journey for DX? As per Mathew, the first step is to identify the pain points in the existing infrastructure. Using low-code technologies, organisations can swiftly build new applications or functionalities to address these challenges.

Prioritisation of projects is crucial. Mathew stresses the efficiency of sorting projects that can be completed within a shorter time frame, such as automating simple workflows or creating basic applications.

By focusing on these "low-hanging fruits," momentum can be built, showcasing the value of low-code tools to the entire organisation.

When using low-code platforms for development, how can businesses prevent the creation of a shadow IT infrastructure that IT perceives as burdensome? Can low code enable citizen development to be a positive force, or will it raise concerns about "rogue" IT?

Mathew emphasises the importance of involving IT in the low-code development process. This ensures that new apps and functionalities integrate seamlessly with existing infrastructure while adhering to IT security, performance, compliance standards, and business strategies. He also suggested that organisations establish collaborative processes between IT and business teams, fostering successful DX leveraging the potential of their LCNC platforms.

When it comes to processes, PwC's Charles Loh points out that a fully developed Automation Operating Model (AtOM) is essential for the success of development with LCNC platforms.

"Establishing and delivering functional processes, skilled resources, governance, and performance metrics are important components of an AtOM. It ensures the alignment of an organisation's IT investments, resources, and activities with its business goals, as well as the compatibility of the LCNC platform in its development and deployment. Additionally, it mitigates the risks associated with rogue automations," explained Loh.

Kissflow's Varadharajan underscores the importance of maintaining the governance structure while developing apps with LCNC platforms. "LCNC platforms can never replace the IT functionality within an enterprise. They simply complement its functionality and ensure smoother operations," Varadharajan added.

How do stakeholders ideally approach

low-code development?

Low code ultimately enables the harnessing of valuable "shadow IT" activities within a managed platform, ensuring the expansion of software development capabilities. In the context of the talent crunch in the ASEAN region, what mindset should stakeholders adopt to achieve faster DX with LCNC?

According to Varadharajan, IT needs to overcome its unnecessary fear of losing control. "LCNC platforms are here to stay. When properly governed, they can accelerate DX initiatives within the enterprise. IT leaders should embrace this change and drive it forward, as it unleashes the company's unstoppable potential for faster and successful DX," he said.

Dinesh Varadharajan, Chief Product Officer, Kissflow.
Image courtesy of Kissflow.

Loh advises stakeholders to embark on a progressive journey by establishing a robust operating model that tests and controls the deployment of LCNC developments. Once the operating model is successfully implemented, they can then increase the velocity of

deployment while implementing strong governance processes.

"Such an approach can help ensure successful DX that is built on top of an organisation's citizen-led development in the LCNC environment," adds Loh.

Mathew suggests that stakeholders should have a shared understanding of their objectives and foster a collaborative, agile, and outcome-focused mindset. It was crucial for IT, citizen developers, and business teams to work together instead of operating in isolation.

"Citizen developers play a vital role in defining project goals and collaborating closely with IT to ensure security, scalability, and compliance. They should be receptive to feedback and iterate as needed to deliver seamless user experiences. On the other hand, IT leaders should be open to new approaches and actively promote integration with the existing tech stack," Mathew said.

Mathew also pointed out that business users can contribute to the success of low-code development by prioritising outcomes, embracing experimentation, and iterating. Additionally, organisational leadership should invest in enhancing the skill sets of citizen developers. With these considerations in mind, how could organisations establish realistic expectations for low-code development in the context of DX?

PwC's Loh stresses the importance of institutionalising citizen-led transformation frameworks for successful DX in an LCNC environment. However, this approach presents its own challenges. Enterprises must address the new business problems that arise from citizen development, such as low development quality, inefficient workflows, process logic errors, and poor design.

"When citizen developers create new applications, there is a risk of implementing redundant features and services that already exist in other applications, without considering reusable codes," Loh explained. "Managing governance in such environments without

stifling an innovation-focused culture is a major challenge."

To overcome these challenges, Loh stresses the need to establish a strong foundation with proper processes, skilled individuals, and architectural design.

Kissflow's Varadharajan believes that LCNC applications reduce the semantic gap between humans and systems. He remarked that the biggest challenge in digital transformation is not the speed of translating requirements, but identifying the correct problem area and a suitable solution to solve it.

"A company with a limited IT staff can alleviate the workload by encouraging individuals to identify and address problems, thereby improving overall efficiency. These individuals can become citizen developers who create suitable solutions to fix function-related problems, freeing up bandwidth for IT developers. This addresses the core challenge that low code aims to solve," Varadharajan added.

One of the initial challenges faced by companies using low code for DX is the inability to document and explain their business processes, as noted by Gibu Mathew of Zoho. Identifying the technical solution objectives is crucial for a successful rollout using low-code platforms. Unlike software development projects using low-level programming languages, there may be limitations in technology capability or flexibility based on the complexity of use cases, he explained.

"For companies with extensive customisation needs, it is important to note that LCNC may not replace traditional development, but rather serve as a supplement to roll out applications more quickly. Companies must continue investing in their IT talent, as this is also crucial for optimising the use of low-code tools," warned Mathew.

Low code makes the citizen developer trend permanent

Finally, will LCNC platforms institutionalise the trend of citizen developers or transform everyone into developers?

Charles Loh of PwC Singapore anticipates the proliferation of LCNC platforms to gain momentum in the next three to five years, and that the demand for citizen developers is likely to experience significant growth.

"I do not, however, envision the entire workforce transitioning into developers. Instead, I see everyone as a transformation agent with governed access to LCNC platforms and can be part of the transformation journey within their capabilities and constraints," stated Loh.

Loh further highlights the need for a controlled environment through a robust AtOM. According to him, there is no benefit in automating bad processes, and that effective process redesign along with automation will deliver the highest benefits.

Gibu Mathew, GM APAC, Zoho. Image courtesy of Zoho.

Zoho's Gibu Mathew believes that while not everyone may become a developer, a significant number of individuals will. "We see this as a permanent shift in the industry because LCNC tools have lowered the barriers to entry for building and customising applications. Advancements in generative AI further expands the possibilities for speeding up application development."

Additionally, as businesses in Southeast Asia continue to prioritise DX, there is a growing demand for customised applications and automated processes. "Citizen developers can make contextually better applications faster with LCNC tools. They are already domain experts," Mathew added.

LCNC platforms have definitely enabled the permanent "citizen developer" trend, observed Kissflow's Varadharajan. "It's very simple: Those who are closer to the problem can identify and solve it. This empowers individuals with tools to automate and solve the problem. Like I said earlier, citizen developers have reduced the workload on IT developers," he concluded.

Low code: Acing digitalisation with post-pandemic realities in mind

The pandemic has changed customer behaviours in APAC and companies are struggling to adapt to the new realities. A study by Singapore's United Overseas Bank confirms that SMBs in the ASEAN region are embracing digitalisation to explore fresh market opportunities, enhance operational resilience, and establish closer customer relationships. Three out of five SMEs expect to pursue digitalisation and explore opportunities in the digital economy, while 66% of all companies plan to increase their technology spending despite cash flow constraints.

Cost is a significant factor influencing the growth strategies of companies in the region. Disruptions impacting demand and cash flow

alone can discourage SMEs from advancing their digital transformation efforts. Additionally, they encounter obstacles in early adoption, such as implementation difficulties, a lack of skilled workforce, and persistent uncertainty in the broader economic environment.

Given the challenges facing these organisations, low-code platforms can offer a streamlined way to rapid DX and intuitive user experiences. These platforms bridge the gap between legacy tools and new front ends for service consumption, facilitating a smooth interface. They enable a balanced collaboration between IT and business, empowering those closer to business challenges to develop applications.

Developing a fully developed AtOM and adhering to it will ensure the alignment of a company's IT investments, resources, and activities with its business goals. This approach also guarantees compatibility in the development and deployment of LCNC platforms, thereby minimising the risks associated with "rogue" IT.

Samuel Abraham

https://www.frontier-enterprise.com/

Samuel specialises in B2B enterprise technology content and is contributing editor at Frontier Enterprise. He has worked as a brand storyteller with IBM and managed thought leadership for some of the largest IT services companies in the world. Starting his career in 2000 as a business journalist, he has headed business and technology editorial desks at The Economic Times in India, Khaleej Times in Dubai, and Times of Oman in Muscat, among others.