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LOW CODE NO CODE - THE INDIA STORY

Revolutionizing Software Development

March 2022

Foreword

Over the years, technological disruption has dramatically changed how organizations in various industries create value for customers, employees, and other stakeholders. But there is one change that is disrupting the way the technology industry itself functions – "Low Code No Code" (LCNC), which is reshaping the way a lot of software is being developed. The accelerated need for digital transformation in the post-pandemic era has further pushed LCNC into high gear. This need for going digital coupled with LCNC's ability to deliver new capabilities with lower dependence on developers, makes it well positioned to witness significant growth amidst the current technology talent shortage wave that has become a global challenge.

NASSCOM, in collaboration with Nagarro, has launched this research study to assess the state of Low Code No Code in India. As part of the report, 60 LCNC providers and adopters have revealed very valuable insights, which can help others in deciding how to pursue this opportunity. With this report we have analyzed the nascent Indian Low Code No Code market, and how stakeholders together can make a big difference to realize the full market potential. We hope you find value in the insights from this study; do share you feedback at research@nasscom.in

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Executive Summary (1/4)

LOW CODE NO CODE – THE FUTURE OF APPLICATION DEVELOPMENT

Pandemic has pushed the need for accelerated Digital Transformation

Thus, a shift in software development from Waterfall to Agile Development Methodology to Low Code No Code (LCNC)

In-turn resulting in democratization of software

The Market Landscape

LCNC Providers – Includes both Specialist and Generalist Providers

Vendor Partners – Product Partners, Service Partners and Support Partners

Adopters – Enterprises, Developers and Citizen developers

Key Drivers

Need for rapid digital transformation

Bridging the talent gap

Integration with legacy technology

Executive Summary (2/4)

Global LCNC Market

The Maturing Global LCNC Market

At $13.8 Bn in 2021, Global Low-Code Development Industry is expected to grow at a CAGR of 28.1% from 2021-2025

- Low-code application platforms (LCAP) account for majority of the market
- LCAP and RPA/Process Automation applications were the highest growing segments in 2021
- BFSI, Healthcare and Hi-tech sector are the leading adopters of LCNC
- Form/Data Collection, Workflow & Process Automation are the top Use Cases

Major Advantages of LCNC

Technology Players

- Rapid Prototyping
- Faster Development
- Better focus on client needs

Industry Adopters

- 50%-75% - Reduced Time for Software Development Life Cycle
- Speed-to-market
- Flexibility

Indian LCNC Market

The Nascent Indian LCNC Market

India's LCNC market crossed $400 Mn in FY21 growing at a CAGR of 15% since FY19

- 70% of revenues from global markets
- The market currently has ~150 LCNC players, with majority players being bootstrapped start-ups
- BFSI, Retail, SaaS are the leading adopters
- Indian IT companies partners with LCNC providers to accelerate digital transformation

India Advantage

- Talent Pool
- IT Ecosystem
- Huge Indian Market for technology services
- Cost Advantage

Executive Summary (3/4)

Survey Insights

Growing Opportunities for Indian LCNC Providers

- Large enterprises have higher awareness and adoption compared to SMBs
- Global markets continue to drive a larger share of revenues with 80% respondents reporting 150% - 200% growth in FY21 revenues from global customers
- Retailers and manufacturers are the key emerging segments

Key Benefits realized by Adopters

- 3X-7X reduction in Development & Deployment Time
- 3X-5X reduction in Cost of Development
- 1.2X-1.5X Increased Productivity
- 30%-35% increase in ROI

Major Inhibitions

- Reluctance from decision makers to move from established legacy to LCNC
- Few Options for Customization Solutions for SMBs
- Lack of training/fear around feasibility of implementation

Executive Summary (4/4)

Success Factors and Outlook

Success Factors

Skills for new roles including product owner, pro-coder, subject matter expert, tester, application designer

An asset light model which is suitable for both cloud and on-premise

A balanced sales mix driven by both direct sales and partnership model

Key product differentiators – scale and ease of integration, cost effective and customizable solutions for wider community acceptance

Outlook

Digital first enterprises will continue to drive adoption and growth of low code no code

India has the potential to generate $4.0-$4.2Bn revenues from LCNC by FY25 in an optimistic scenario, accounting for ~10% of the global market

Recommendations

LCNC Providers

Provide custom pricing models to adopters

Partner with mid size and SMB IT services firms

Build talent pool & focus on skilling

LCNC Adopters

Strong leadership commitment through LCNC budgets and execution support

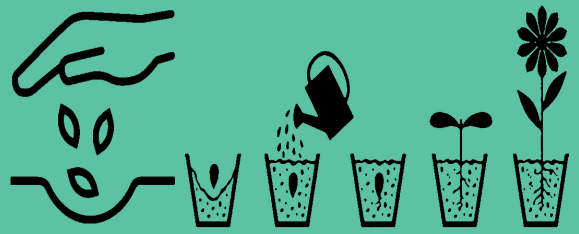
Associations

Spread awareness on LCNC

Reskilling support

LOW CODE NO CODE
INDUSTRY OVERVIEW

“Low Code No Code” – The Future of Application Development



CUSTOM CODE

- Developers build the entire service or product from scratch
- The solution fits exactly and only with specific business need

Conventional software development requires writing lines of code to computer program. Programmers must have in-depth knowledge of computer languages, as well as development and deployment processes.

WHAT IS LOW CODE?

- Ready to develop blocks of code which enables Minimal Hand Coding
- Developers add custom code on top of a readymade low code

Low Code Application Development supports Rapid Application Development, one- step development and deployment, by using declarative high level programming abstractions with minimum hand coding.

HOW IS NO CODE DIFFERENT?

- Ready to use components which contain the actual code for different capabilities
- Developers directly link together these pre-built components

No code Application Development is a specialized extension of Low Code Development, typically used to allow non-technical users to build simple tactical apps by using visual tools like drag and drop.

Sources: Gartner, Forrester and other News Articles

The Evolution of Software Development to Low Code Development

FOR NEARLY 50 YEARS CODING HAS RULED, UNTIL LOW CODE GOT ESTABLISHED

1970 1990

Fourth-Generation Programming Language (4GL)

Low-code development platforms trace their roots back to Fourth-Generation Programming Language (4GL)

A concept that was developed from the 1970s through the 1990s, overlapping most of the development of 3GL

1990 2010

Model-Driven Architecture (MDA) & Emergence of Mobile Platforms

Rapid Application Development (RAD) – RAD gained– momentum in 1992 with the concept of visually "assemble" desktop applications by using tools like Visual Basic, Delphi, and Oracle Forms

Model-Driven Architecture (MDA) – Launch of Model-Driven Architecture (MDA) in 2001 as a software design approach that provided a set of guidelines for structuring and expressing specifications as models

Evolution of Mobile Platform – Launch of iOS by Apple & in 2008- Launch of Android by Google

2010 2022

Digital Transformation at scale

Low Code as Industry – 2014 Research Firm' 'Forrester" coined the term "Low-code" and 2016 Forrester estimated the total market for low-code development

Need for Digital Transformation at Scale – COVID-19 pandemic pushed enterprises towards adoption of LCNC to fulfil agile development needs

Sources: Secondary Research and News Articles

Shift in Software Development from Waterfall to Agile to Low Code No Code

WATERFALL METHODOLOGY

VS

AGILE AND LOW CODE DEVELOPMENT

Traditionally, the software development was done by the **Waterfall Model methodology** also known as Linear **Sequential Life Cycle Model.** In this, project development team only moves to next phase of development or testing if the previous step is completed successfully.

In the Agile Model, development and testing activities are concurrent, this helps in continuous iteration of development and testing in the software development process.

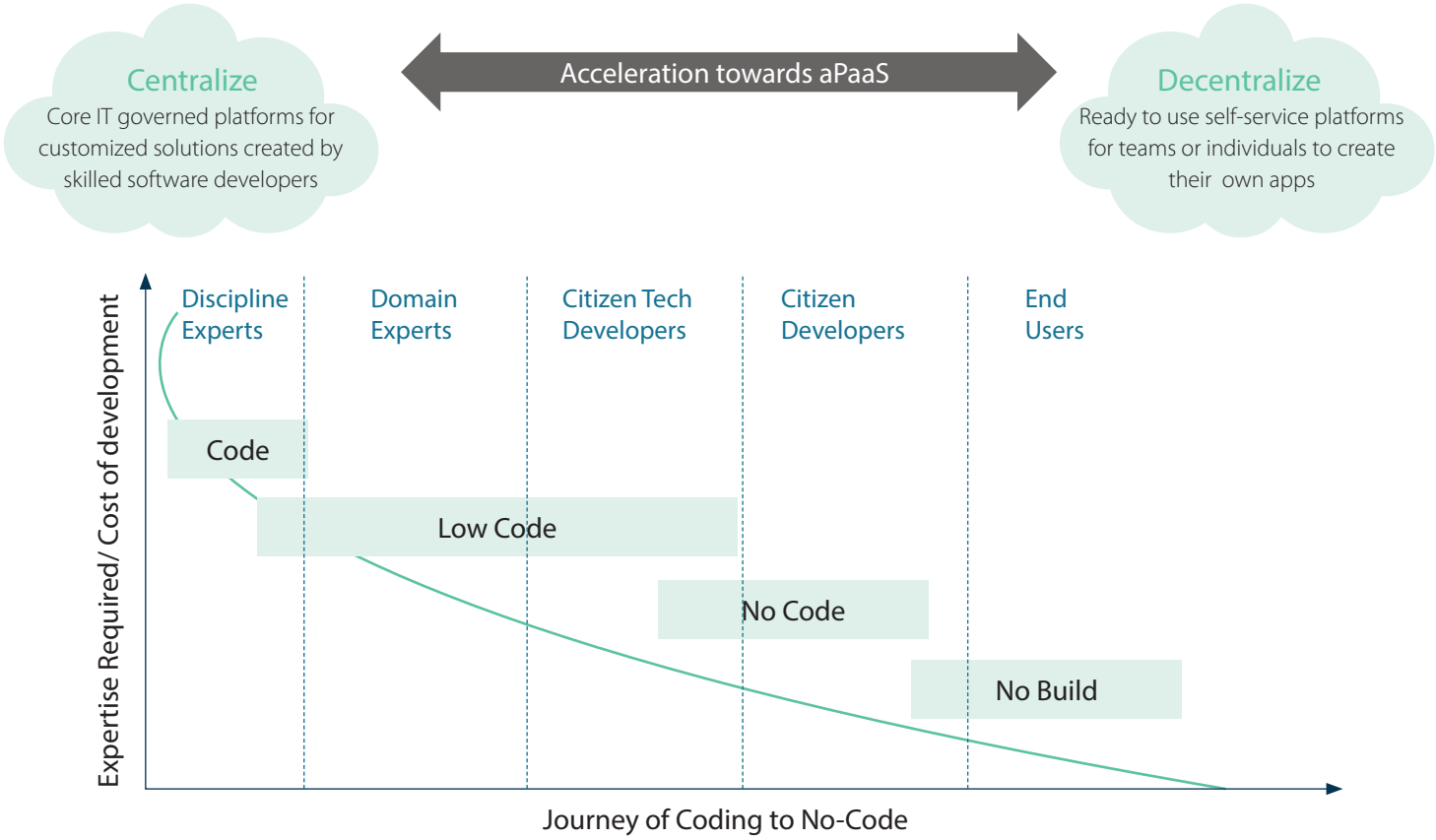
Low Code Development is a specialized form of Agile, replacing the need to write codes with visual drag-and-drop tools and process modelling, reusable components and real-time collaboration.

Sources: Gartner, Forrester and other News Articles

Accelerated need for Digital Transformation and Cloud has shifted Low-Code into High Gear in turn supporting Democratization of Software

The accelerated need for digital transformation has pushed technology providers to democratize access to development tools with low code no code and application-platform as a service (aPaaS) playing a crucial role in this process. aPaaS is a cloud environment for designing, building, deploying and managing custom business applications. It is a great example of a centralized technology (the platform) that enables decentralized innovation (the applications), balancing the freedom to create with lightweight governance and guardrails.

DEMOCRATIZATION OF SOFTWARE DEVELOPMENT WITH TIME



Sources: UnearthInsight Analysis

The Low Code No Code Technology Landscape

LCNC Providers

LCNC Product Segmentation

PaaS: Platform as a Service – Users pay for a platform to build their own tools

aPaaS: Application Platform as a Service – A specific kind of platform where users can build their own applications

hpaPaaS: High Productivity Application Platform as a Service – helps developers rapidly build web apps without writing custom codes

DaaS – Deployment as a Service provided by IT Industry from consulting in selection of right LCNC provider to execution

Specialist Providers ~20%

Pure-play software development firms offering products that consist primarily of a Low Code platform.

Key Players: Appian, Mendix, Outsystems, Bettyblocks

Generalist Providers ~80%

Large firms that have developed their own low code capabilities and can integrate their low code products with the rest of their offerings.

Key Players: Microsoft, Oracle, Salesforce, Pega, Zoho

Vendor Partners

Product Partners (PP)

Independent Software Vendors (ISV) and Integrators

Service Partners (SP)

Strategic Consulting Firms – Partner firms implement solutions to increase the LC efficiency

Global System Integrators – Plan and Implement transformational IT Strategies for large enterprises

Support Partners (SP)

Training Firms providing courses with the focus to reskill and upskill workforce

Reseller Partners working with customers to strategize marketing and CX solutions built on LC platforms

Adopters*

70-80% Enterprise Adopters

Leaders – IT, BFSI, Telecom, Healthcare, FMCG, Entertainment and Media

Growing Adopters – Energy, Education, Agriculture

15-20% Developer Adopters

Developers/Engineers – Building Internal Tools and Development upon Platform as a service

5-10% Citizen Developers

Enterprise Solutions – Use Case across Verticals/Horizontals

LCNC Products – Building Products for End Users (B2C Apps)

Sources: UnearthInsight Analysis

Note: *Global Adopters

Need for Rapid Digital Transformation – The Key Driver

DRIVERS OF LCNC TECHNOLOGY	BENEFITS OF LCNC TECHNOLOGY
Need for Rapid Digital Transformation	**Reduces Time** to Development & Market
Bridging the Talent Gap	**Reduces Need** for Coding/Development Talent and Increases Collaboration with Business Users
Integration Hurdles with Legacy Technology	**Agility** to Deliver Apps across Platforms and Respond to Abrupt Market Changes
Omnichannel Layer for End Users	Enables **Consistency** in outcome through ubiquitous network access to users no matter device or cloud type
Reusability	Increases **Productivity** & Aides **Scalability** through Reuse and Automation of Operations Processes

Sources: Devops.com, Forrester Research

Case Study - Nagarro worked as a strategic partner with Austria's hydraulic lifting manufacturer to automate inspection logging mechanism

PROBLEM STATEMENT

Brief: One of Austria's largest manufacturers of hydraulic lifting, loading and handling systems- with over 35% of the market share. As the world's leading provider of innovative crane and lifting solutions, it accepts the present challenges and innovates solutions for the future.

Challenges Faced: The inspection in the manufacturing plant was carried out in a manual and error-prone manner using excel-based records. The mechanism caused delays in planning, coordination, and inspection logging of welded components at all factories across the globe.

SOLUTION

Nagarro developed a Simplifier-based online platform to digitize the visual inspection process with the existing business logic and role-based access. The application, **developed within eight weeks**, allows shopfloor quality inspectors to inspect welded components, log defects, upload pictures and save inspection results along with the measurements & test results.

IMPACT

The application digitized the visual inspection process for components and automated the inspection logging mechanism.

It provides the manufacturing plant, regional, and global view of the inspection results through dashboard graphs and charts, which provides insights into the data and can improve the yield of the welding process.

The application is available in 10 different languages,

Accessible in offline mode and

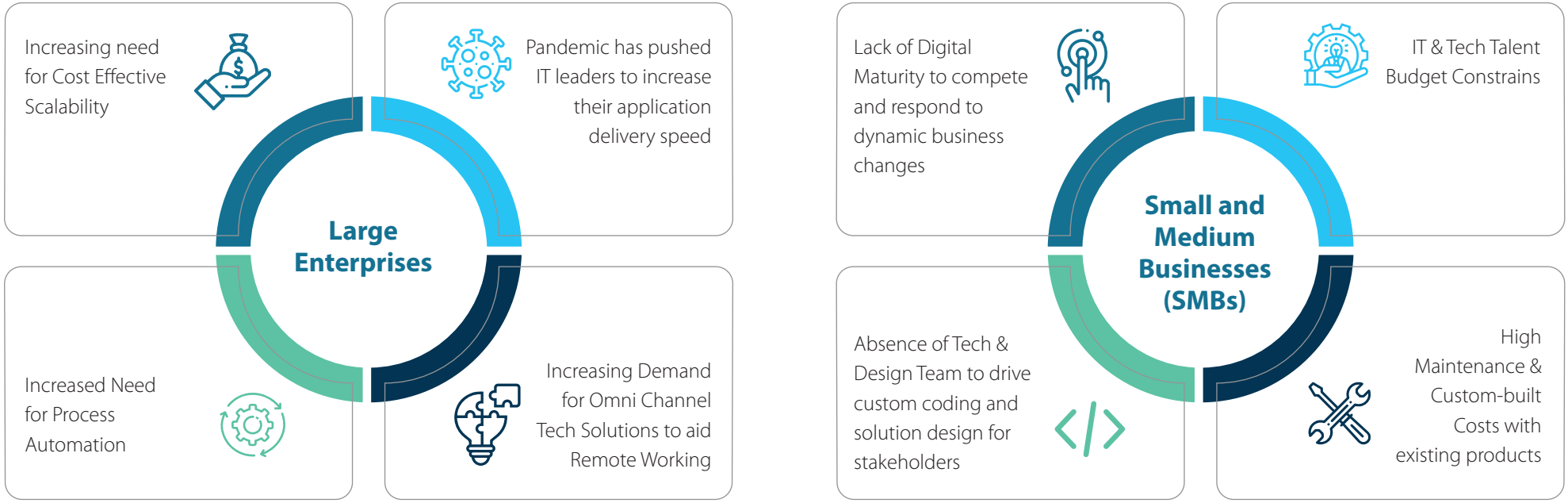
Available to the shopfloor team on all devices such as mobile, tablets, etc.

LCNC Adoption primarily driven by Increased Need for Digitization

Large Enterprise Adoption – Driven by accelerated need for digital transformation specially post the pandemic. For example - Microsoft has witnessed a significant increase in their LCNC platform Power Apps subscriptions with over 80% of the Fortune 500 companies now using it.

SMB Adoption – Is largely driven by open source and low cost LCNC digitization apps. Players like Google support SMBs with various LCNC tools like App Maker, AppSheet, Apps Script, Google Forms, and App Engine

KEY DRIVERS FOR LCNC ADOPTION

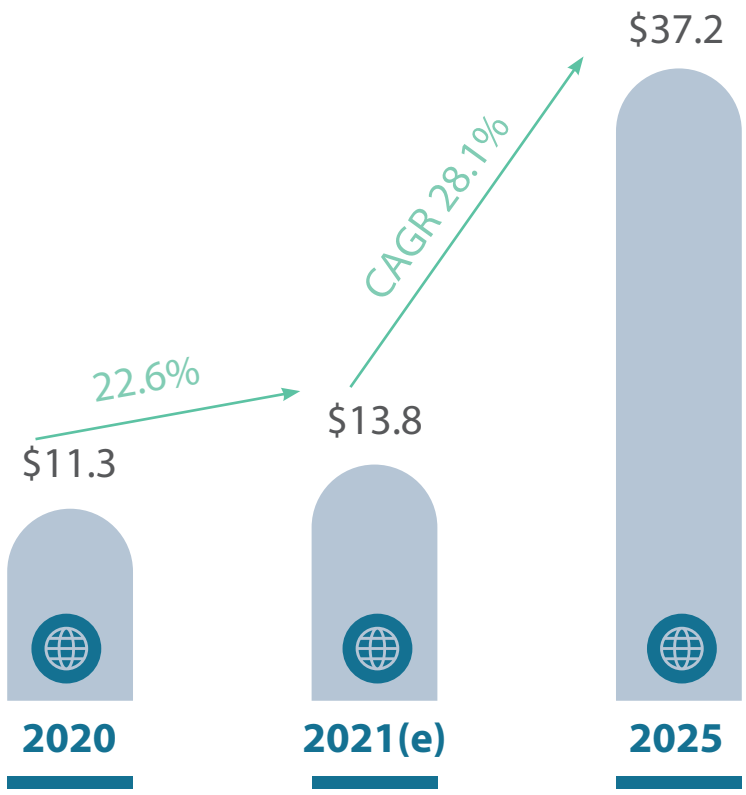


Sources: Gartner and News Articles

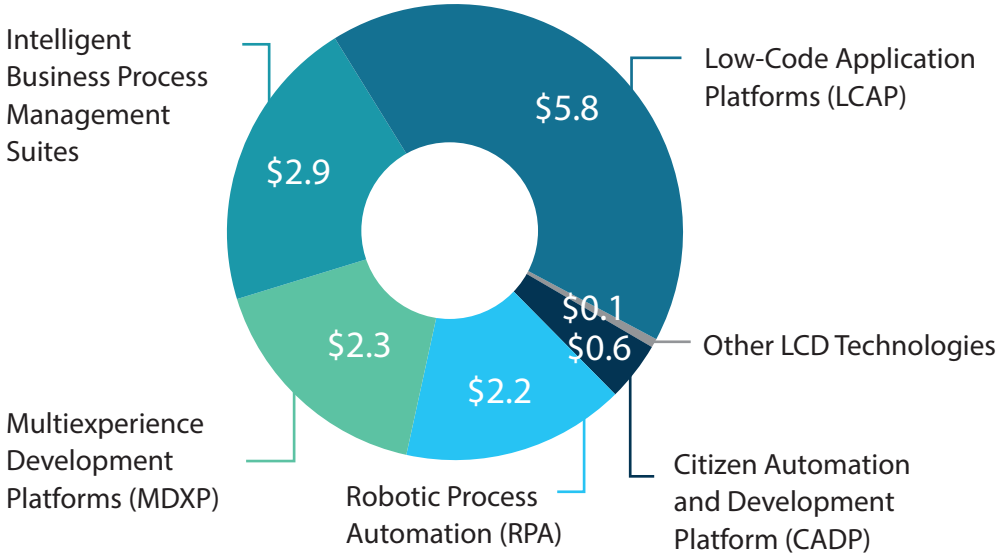
GLOBAL PERSPECTIVE
ON LCNC

$13.8 Bn Global Low-Code Development Industry Expected to Grow at a CAGR of 28.1% from 2021-2025

Global Low Code Market Size (Bn)



Market Size By Type of Low Code Tech in $ Bn (2021)



LCAP and RPA/Process Automation were the top growth segments growing at 37.3% and 30%, respectively in 2021

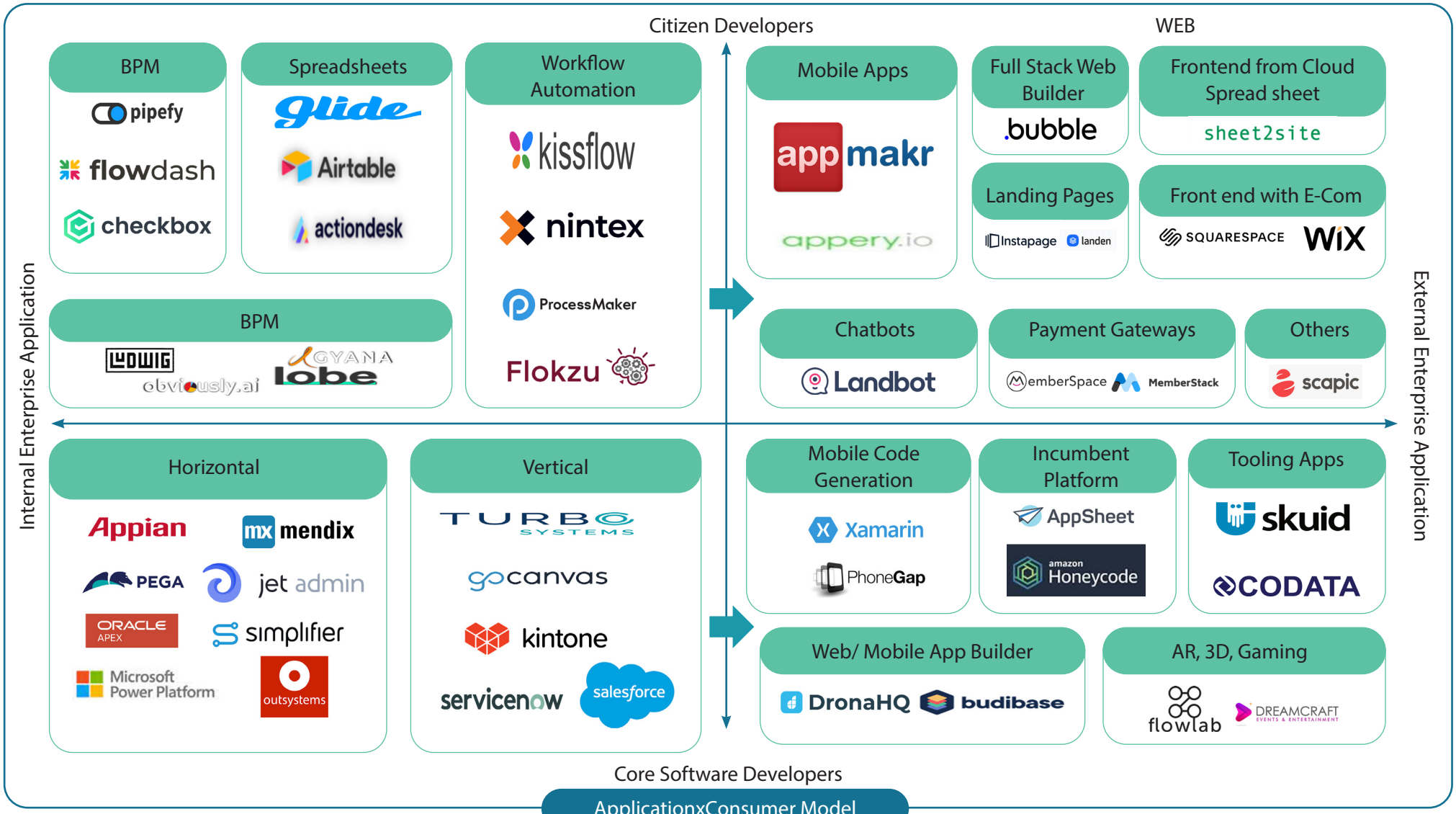
SaaS and Hyperautomation Will Drive Low-Code Adoption – Major SaaS vendors currently provide capabilities that incorporate low-code development technologies, and as SaaS popularity grows low-code market will see commensurate growth in LCAPs and process automation tooling.

Sources: Gartner and Markets & Markets

Note: Other LCD technologies include RMAD tools and RAD tools

The Global Provider Landscape – by Market Sub-Segments

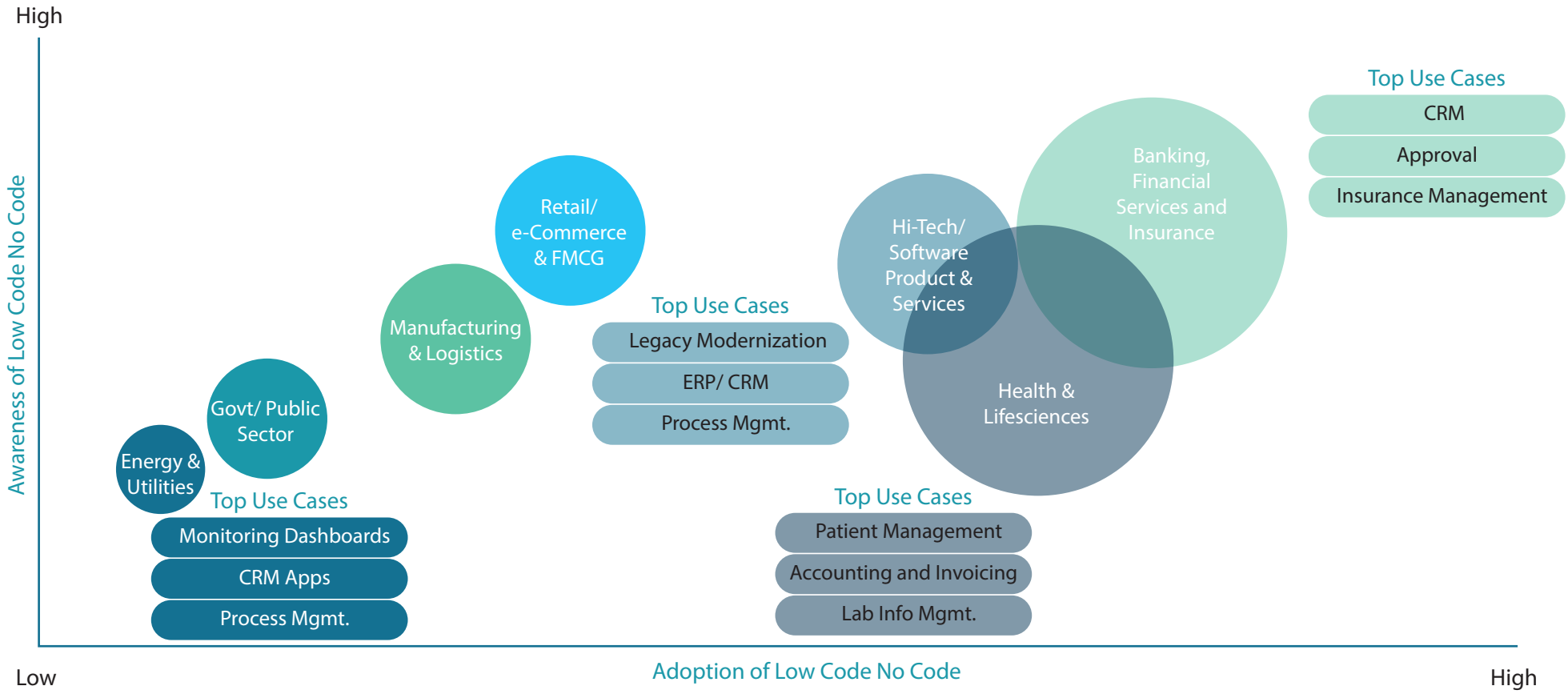
Illustrative



Sources: Secondary Research and News Articles

BFSI, Healthcare & Hi-Tech are leading Adopters, with manufacturing being an emerging adopter driven by industry automation

Size of Bubble indicates % Adoption

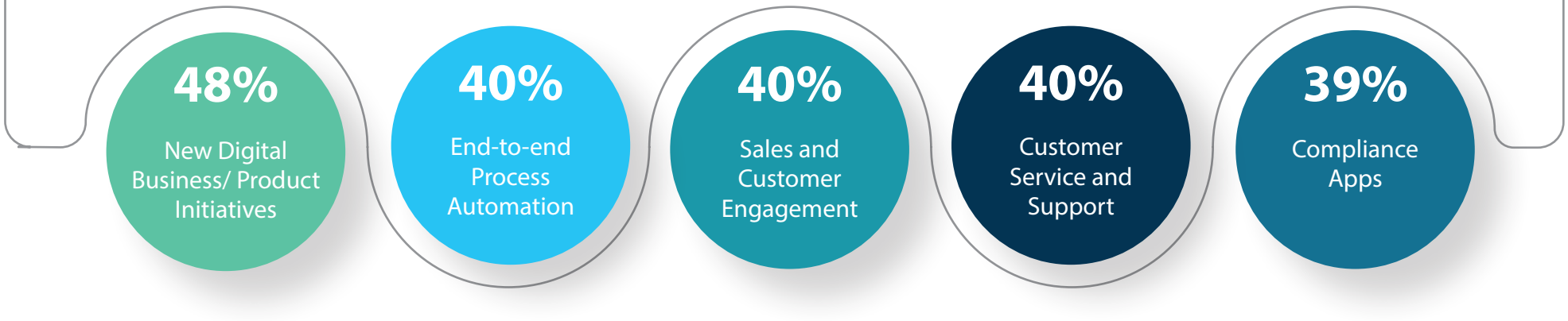


Sources: Gartner and UnearthInsight Analysis

Form/Data Collection, Workflow & Process Automation are Top Use Cases

Top Applications of Low-Code No-Code

Survey Responses



Top Low-Code No-Code Use Cases

58% Forms/ Data Collection Apps → **49%** Business Processes & Workflow → **42%** Process Automation → **22%** UI / On-Premise App

Sources: Forrester Consulting (2018) survey covering 146 global organizations ; Gartner's 2019/2020 Global surveys

Case Study - Nagarro helped in driving higher shopfloor efficiencies and effective collaboration for one of the largest pharmaceutical importers in Germany

PROBLEM STATEMENT

Brief: One of the largest pharmaceutical importers in Germany, with revenue of over USD 300 Mn was looking for a new age platform that provided end-to-end solution for tracking shopfloor tasks, reporting, and movement of boxes through cold storage.

Challenges Faced: Continuous reduction in operational efficiency, increasing manual errors in the existing process of recording data manually in paper-based forms for tracking shopfloor tasks and movement of boxes through cold storage.

SOLUTION

Nagarro helped build a modern agile and scalable solution that needed a minimal learning curve and IT dependency. Leveraging Simplifier as the go-to-choice of Low Code platform, Nagarro built a role-based application. The platform allowed members on the shop floor to select the production orders, track the completion of tasks, and record the timings for removal and storage of production orders and batches in cooling stations. It provides the report for each production order with the details for all the phases.

IMPACT

The new-age platform that enabled a one-click solution for the client

Helped improve the overall efficiency in tracking production orders, enhance accurate tracking, and boost collaboration in the day-to-day operations.

The app also enables visualization of complete reports of logged hours, overtime, and more displayed automatically.

Rapid Prototyping and Faster Development are the major advantages for Tech Players from LCNC

Rapid Prototyping

1/3rd Time to Prototyping for Clients compared to traditional software development methods

>50% faster prototype to full-fledged solutions

Faster Development

Faster Time to Market – 50%-75% Faster Launch with Pre-coded solutions and customizations on the go

Better Focus on Client Features/ Needs

Functional Mindset – Domain/ Business Stakeholders innovate and develop client driven solutions through standardized, pretested, and ready-made components

Fewer Integration Challenges

Integrated APIs – LCNC helps Tech Players reduce integration issues, cut down on the maintenance time and focus on core solution

Multi-Partner Approach

Partner Driven Ecosystem for Scale – 90% of IT Services firms leverage a multi-Partner Approach

It also aids in close Involvement of Multidisciplinary Teams enables collaborative development

Sources: Survey of Nasscom/ UnearthInsight in 2021 and Based on Multiple Global Surveys of Redhat, Gramener, Mendix, Outsystems enterprise customers over the last 3 to 5 years

Reduction in Development Time & Speed are biggest Benefits of LCNC for Industry Adopters

Dev Time

50%-75%

reduction of software development life cycle time

Speed

≈80%

of enterprises turn to LCNC for its ability to increase speed-to-market

Productivity

≈70%

of firms leverage citizen development to speed-up development time

Developer's Choice

≈70%

IT developers prefer LCNC development platform due to ease of development

Reduced Costs

≈65%

LCNC users perceive 80-90% CapEx/OpEx reduction

Flexibility

≈60%

of custom apps are now built outside the IT department

Bridging Talent Gap

≈30%

custom apps are built by employees with either limited or no technical skills

≈80%

of technology products and services will be built by those who are not technology professionals by 2024

Sources: Based on Multiple Global Surveys of Redhat, Gramener, Mendix, Outsystems enterprise customers over the last 3 to 5 years

LOW CODE NO CODE LANDSCAPE IN INDIA

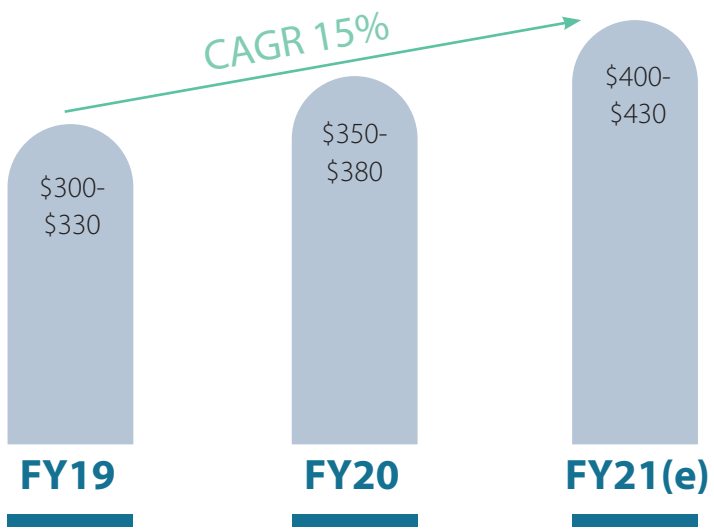
India's LCNC Market Revenues Crosses $400 Mn largely driven by Exports

LCNC Revenues	LCNC Headcount	# of Companies
~$400M	~8-10K	~150 (125 Start-ups)

Key Highlights

- +$400 Mn LCNC Market in FY21 is expected to grow at a CAGR of 25% to reach $1 Bn in FY25
  - 70% of revenues coming from global markets – 20+ Indian LCNC providers are already operating across countries
  - Majority of the growth from sectors like BFSI, SaaS, Retail and in-partnership with IT Services firms

Indian LCNC Market Size ($ Mn)



Investments

85% to 90% of Indian LCNC Start-ups are bootstrapped
Debt Funding is preferred instead of VC funding

LCNC Start-ups Driving adoption in Indian Market

90% Indian adopters use Indian LCNC start-ups

Proof of Concepts to Scale

80% PoCs Scale to Full Implementations
Indian LCNC players leverage PoCs in India to enter global markets and showcase ready to deploy solutions

Sources: UnearthInsight and NASSCOM Analysis (Top Players Revenues)

Note: Revenues and Headcount have been estimated using bottom up research methodology of analysing revenues of 70+ LCNC companies and IT services firms. Estimation is based on public revenues, disclosures in current interviews and past interviews/surveys run by UnearthInsight and NASSCOM

Indian Market is Served by ~150 LCNC Providers both Pure-Play & IT Services

Illustrative

Indian LCNC Providers – Core

DECIMAL
DronaHQ
NextCloud
WIZERGOS
Keito
yellow.ai
techjockey
OREOPS VALUE WITHIN
officexlr
ZeroCodeHR Why Code?
nodezap
KSTYCH
unqork

IT Services – In-house + Partners*

TCS TATA CONSULTANCY SERVICES
Infosys
HCL
wipro
Tech Mahindra
nagarro
Mphasis The Next Applied
LTI Let's Solve
HEXAWARE
Mindtree
Persistent
Coforge

Sources: UnearthInsight Analysis

*Indian IT services firm also partner with global LCNC companies like Kissflow, Mendix, Appian, Salesforce, Pega, Microsoft's PowerApps, etc.

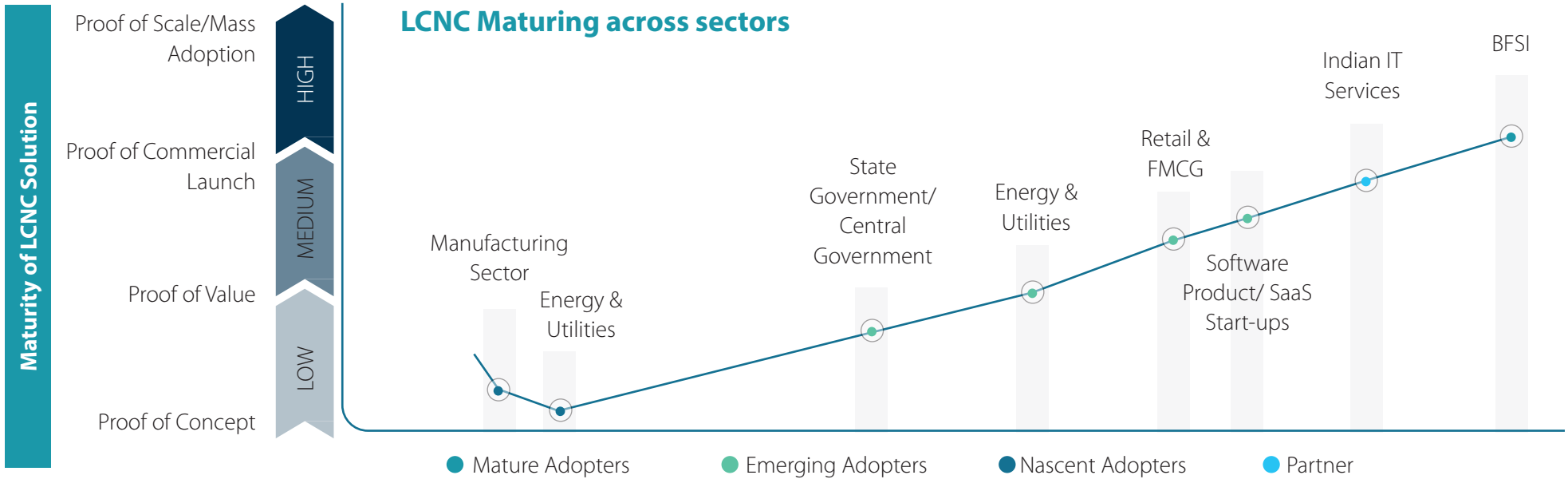
BFSI, Retail, SaaS are leading adopters of LCNC solutions

Key Highlights

In India LCNC adoption is growing fast and largely across large enterprises, with SMBs being slow in following the trail

- BFSI – 60%-70% Revenues for Indian LCNC players driven by BFSI sector adopters like HDFC, SBI, Kotak, ICICI etc.
- SaaS Product Firms – 10%-15% Revenues for Indian LCNC players come from SaaS Product & Services Firms who are expanding into global enterprise markets.

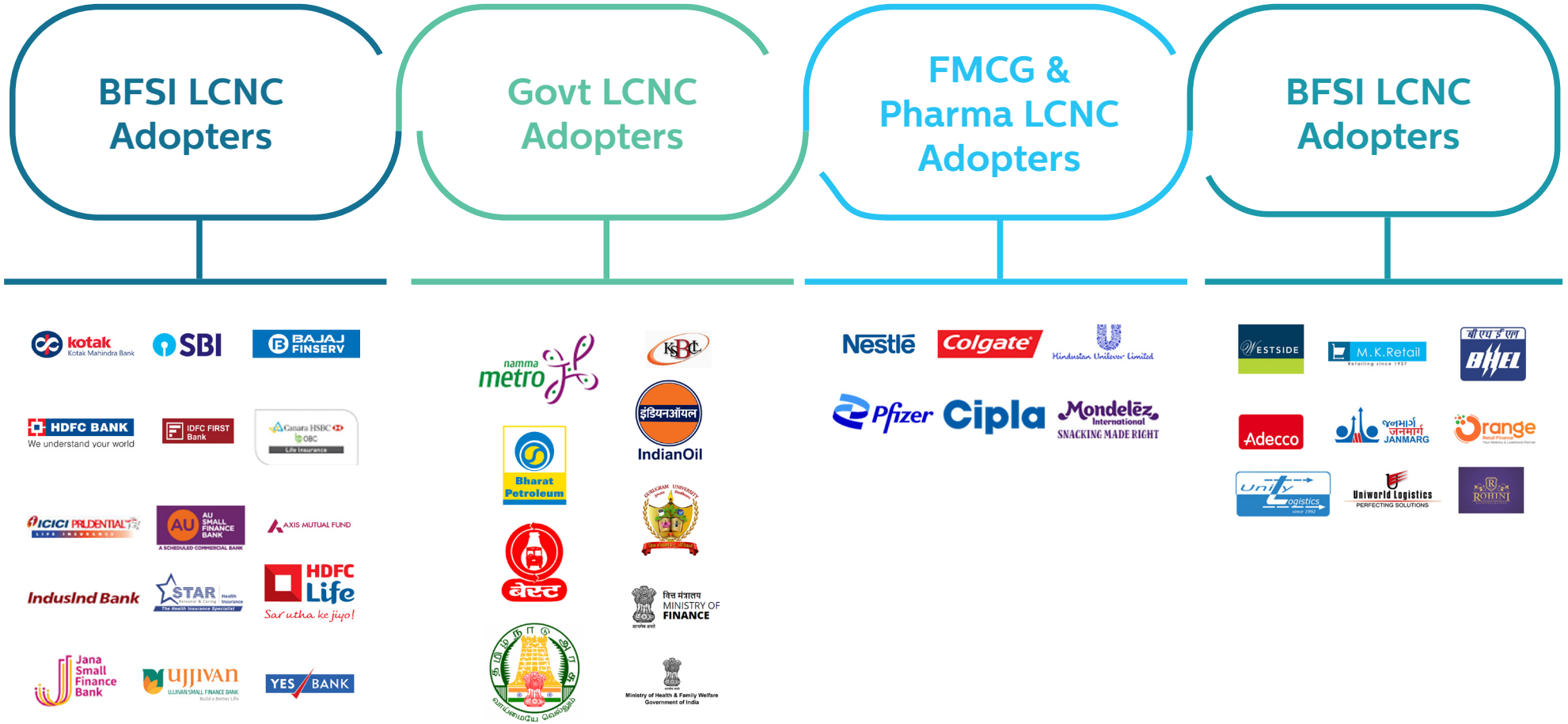
IT Services Driving Global Expansion – 90% Indian LCNC players view IT services firms as channel partners for global reach and collaborate to leverage the growing digital transformation opportunity.



Sources: UnearthInsight and Nasscom Analysis

Indian LCNC Adopters – BFSI, Indian IT, SaaS are Leading Adopters

Illustrative



Sources: UnearthInsight and Nasscom Analysis

Illustrative LCNC adoption examples – Indian Providers

	Banking	Insurance	Logistics	Manufacturing	Sales Team Engagement	Exports
The Solution	A **video banking solution** to allow customers to access a complete complement of financial services online, featuring face-to-face interaction with a banker via video chat. A **lead management system** to allow customers to refer and earn.	**An Intelligent virtual assistant** that can access all relevant information from all systems and guide the agents during the call. **Business team wrote down detailed flows and rules that the virtual assistant can use.**	**Finance and CRM Module –** General ledger, Account Receivable, Accounts Payable, Bank Reconciliation modules, were implemented in all branches next. **Employee Portal –** for the employees to view / edit their personnel information and to view notice board information.	**Data migration-** integration with their internal systems was achieved much faster with No Code approach **Single application** Client had clear view of their entire operations in a single application	**'Gamification as a Service'.** Built three apps in four weeks: A Photo Contest app, a Sales Contest app and a Quiz app for increased sales team engagement.	**Automated** high-impact paper and excel-based processes involved at various stages of seafood processing.
The Impact	The team was able to **go live for solutions in 40% time** compared to a typical custom development **with Decimal Technologies' Vahana**	The app **was built 10X faster** and made rapid changes possible on real time basis with **Wizergos**	Improved shipment tracking. **Manifestation time reduced from 20 min to 3 Min** with **Agile Lab's AXPERT**	**Manual work** was removed with **massive increase in productivity with eNextCloud's platform** **Clear view** of the **entire operations in single application.**	The apps developed by **Drona HQ,** helped in driving engagement and productivity of the salesforce while increasing the market penetration	**Improved productivity by over 15% with Quixy** **Reduced the application development time by over 60%.**

Indian IT Partners with LCNC Providers to Accelerate Digital Transformation

Indian IT Services — **In-House Low Code No Code (LCNC) Platforms** + Partnership with **90%** of global LCNC Providers

Illustrative

Indian IT Services	Inhouse-LCNC Platforms	LCNC Partners
TCS	Quartz DevKit MasterCraft	PowerApps, PEGA, Creatio, outsystems, appian, mendix
Infosys	Cobalt	PEGA, servicenow, salesforce, outsystems, PowerApps, mendix
HCL	Volt MX Domino Volt	mendix, appian, salesforce, PowerApps, servicenow
LTI	Canvas Studio	PEGA, appian, NEWGEN, PowerApps, outsystems

FY21

~2,000+
Projects Delivered

~3,000+
LCNC Trained Professionals

Sources: UnearthInsight and Nasscom Analysis

India Offers Advantage of – Large Talent Pool and a Testbed for Scalable Global Solutions

Talent Pool

Platform Development Talent –Engineering and Product Development talent to enhance LCNC platform building capability. 90% of Global LCNC firms leverage India for platform development through their GCCs (Example – OutSystems, Pegasystems, Kissflow etc.)

Customer Success Talent –Product Management Talent across SaaS/ Product and Tech Start-Ups

IT Ecosystem

Market Penetration – LCNC firms can partner with Indian IT Firms who can enable market penetration supporting deployment of solutions globally to over 50+ countries

Agile and Just-Time Development Talent – Access to 5+ Mn IT Talent for Implementation & Large-Scale Deployment

Capability Centres – Global LCNC players are leveraging India as "Capability Center" to build innovative "Ready to Deploy" solutions for global clients

Huge Indian Market

India as a Testbed for Scalable Solutions – Opportunity to sell scalable solutions built and tested in India across Banking, Financial Services, Insurance, Pharma and IT services.

Mass Appeal – Indian LCNC platforms have the capability to cater to large SMB market in USA/Europe which is evident from penetration of companies such as - Newgen, Zoho Creator, DronaHQ, Decimal Technologies etc.

Competitive Pricing

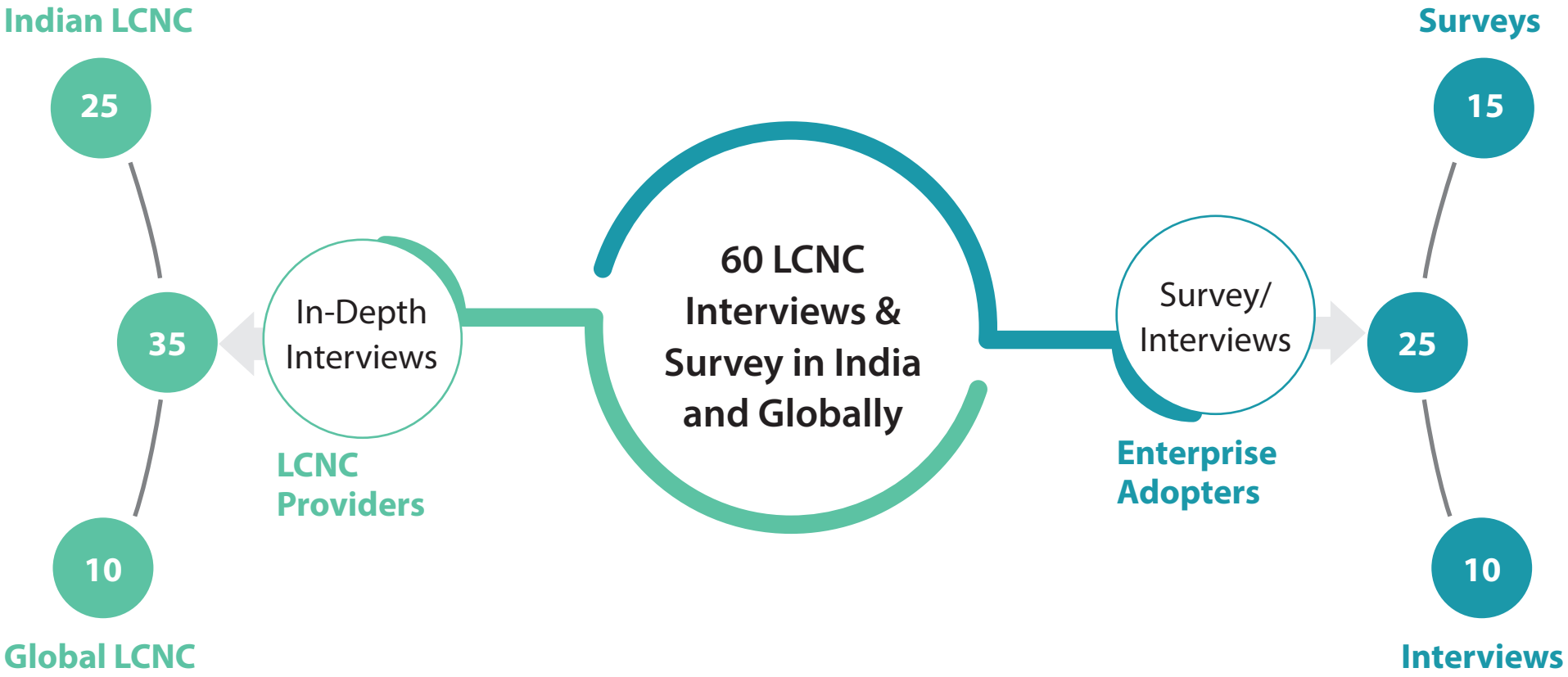
Cost Advantage – 15+ Global LCNC players have a GCC or development centre in India to take advantage of cost arbitrage which helps them in developing competitive global solutions.

Indian Platform for the Global market – In addition to developed markets, Indian LCNC players are able to effectively sell in regions like Africa, Bangladesh, Sri Lanka and South East Asian markets due to their cost competitiveness compared to global players

Sources: LCNC Provider Interviews/ Expert Discussions

Industry Interviews/ Survey: 60+ Low Code No Code Providers/Adopters

NASSCOM partnered with UnearthInsight to develop the primary research strategy, rollout, and analysis of inputs that covered the key adopters from BFSI, Retail, Manufacturing, Hi-Tech/IT sectors + Indian LCNC solution providers and startups.



Note: Majority of adopter respondents were mid to small size firms

Pandemic Expedited the Digital Revolution Creating Growth Opportunities for Indian LCNC providers

LCNC Provider Interview Insights – FY21

LCNC Awareness & Adoption Drivers

Large Indian Enterprises

80% Awareness

~20% Adoption

Drivers	Time to Deployment	ROI & Scalability	Talent Challenges

Indian SMBs

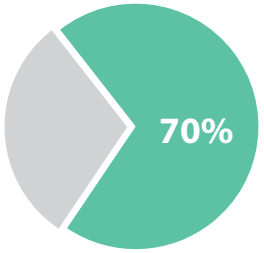
30% Awareness

<5% Adoption

Drivers	Cost to Deployment	Ease of Configuration	User Experience

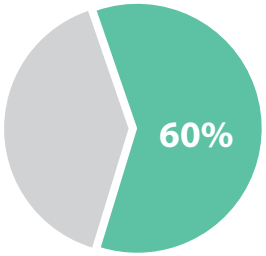
Growth Uptick

Global Customers



Of the respondents reported 150% to 200% revenue growth

India Customers



Of the respondents reported 100% to 150% revenue growth

Emerging Adopters

Indian Retailers

Manufacturers

LCNC Development by Application Type*

B2B – 50%

B2E – 35%

B2C – 15%

Sources: LCNC Provider Interviews/ Expert Discussions

*B2B – Business to Business; B2E- Business to emplyees, partners etc. internal stakeholders; B2C – Business to Consumers

LCNC Cuts Down Development Time by 3X-7X with 3X-5X Lower Costs

LCNC Adopter Interview Insights – FY21

Large Indian Enterprises

Primarily Use/Prefer **Large LCNC Platforms** across sectors, except BFSI which prefers both Start-up LCNC & Large LCNC players

LCNC Usage – Type of Players/ Providers

Indian SMBs

Primarily Use/Prefer **Start-up LCNC Platforms** due to relatively lower costs and ease of customization

Benefits Realised

3X-7X

Reduction in Develop & Deploy Time

Few of the BFSI companies, Public Agencies in India have deployed Apps within 3 to 15 days

3X-5X

Reduction in Cost of Development

Some of adopters across BFSI, Telecom, Retail have witnessed 3/4th Reduction in Development Costs

1.2X-1.5X

Increased Productivity

Some of adopters across BFSI, Manufacturing, Retail have even witnessed +1.5X Improvement in productivity levels

30%-35%

Increased ROI

Some respondents indicated ROI realisation in weeks compared to months previously, across sales, marketing, internal IT applications

Accelerated Development at lower costs observed for BFSI, Retail, SaaS and Manufacturing adopters

- Highest impact on development time and cost was experienced in process centric use cases in customer apps for credit card, banking, customer onboarding or within HR like virtual interview, candidate engagement, onboarding and relocation
- Sales/Marketing use case for lead tracking, spend analytics platforms witnessed 3-4X reduction in costs along with 9-10X faster development.

Sources: LCNC Adopter Interviews/ Expert Discussions

Reluctance to Move from Legacy Remains a Key Inhibitor for LCNC Adoption

Inhibitions

Most of the low-code/no-code platforms are developed keeping in mind larger enterprises which doesn't suit SMBs/Mid Size firms

Lack of training on usage on low-code or no-code solutions is a major inhibitor to adoption

Which also fuels inhibitions around feasibility of implementation

Business and Technology Stakeholders are reluctant to migrate from legacy to new tech/LCNC

Provider Intervention

Partner with IT Services vendors to assist in developing platforms with unique customizations that can match the requirements and help these firms achieve their business goals.

Leverage Training Partner Ecosystem to build ready to deploy talent pool for clients and internal teams

Support them in integrating the platform in the existing IT set-up

Communicate Business Benefits of LCNC to help over come Stakeholder inhibitions

Note: Provider includes both LCNC Providers as well as Implementation Partners

Sources: LCNC Adopter Interviews/ Expert Discussions

Product's Acceptance & Data Security are major apprehensions across Indian Adopters

LCNC Adopter Interview Insights – FY21

LCNC Adoption Apprehensions

90% of respondent faced apprehensions in early stages

Apprehension 1
Product Acceptance

Apprehension 2
Data Security

Apprehension 3
Execution Capability of these solutions

Departments Adopting LCNCs

Process oriented functions are witnessing increased adoption of LCNC solutions

Sources: LCNC Adopter Interviews/ Expert Discussions

SUCCESS FACTORS

Key Success Factors for LCNC Providers

Right Skills

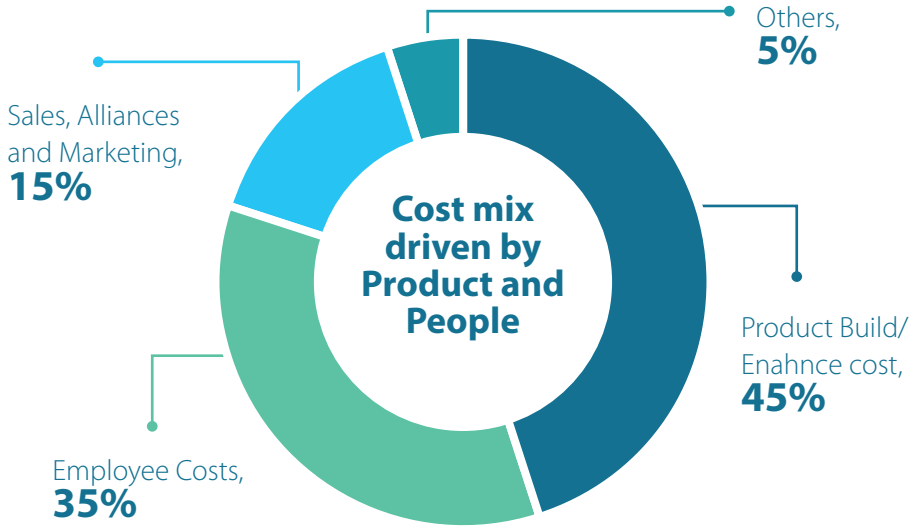
Emerging LCNC Roles	Skills Required
Product Owner	Analytics Skills (Python/R)
Pro-Coder	Advanced JavaScript, Advanced HTML, C# & CSS
Subject Matter Expert	SOAP, REST, Web Services & Backend Integration
Tester	OPA 5 Framework, User Story, Manual Testing
Application Designer	API, JSON, Cloud, vFlow

A Balanced Go-To-Market Strategy

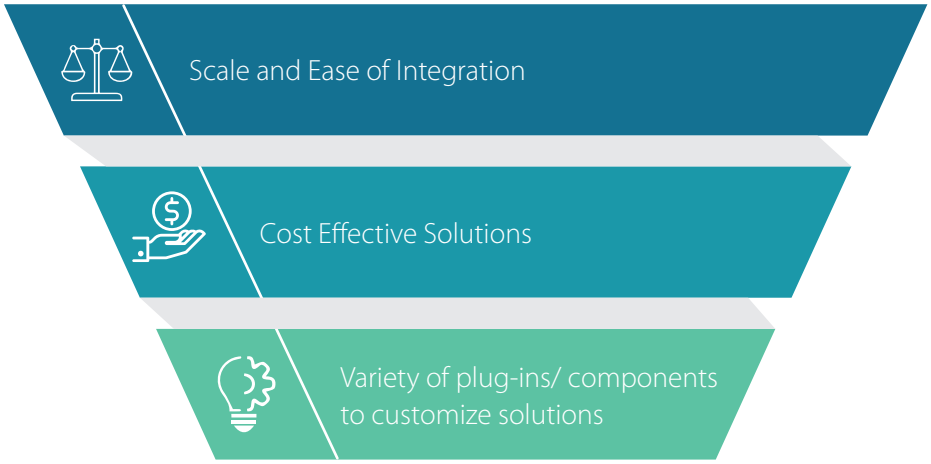
SI & Consulting Partners	Direct Sales
50% sales through IT services partners who position existing use cases/solutions	50% sales through direct pilot of existing LCNC use cases

The Asset Light Business Model

Asset Light Model | Build On Cloud | Delivered as SaaS



Top 3 Differentiators Adopters Seek-in an LCNC Solution



Sources: LCNC Provider Interviews/ Expert Discussions

RECOMMENDATIONS
& OUTLOOK

India has the Potential to Become a $4 Bn LCNC Market with a Higher Global Market Share by 2025

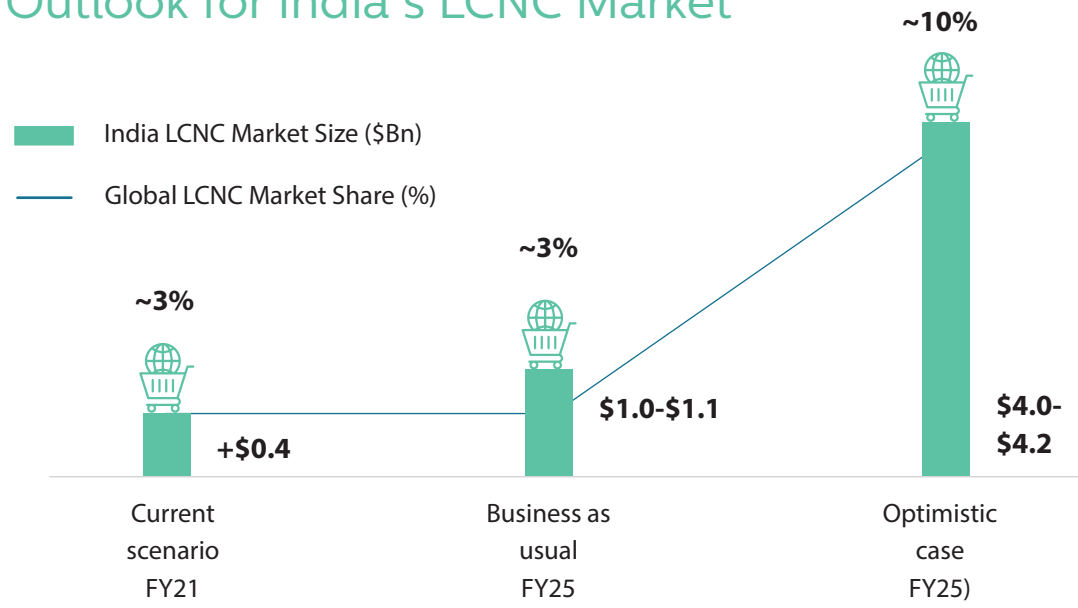
Outlook

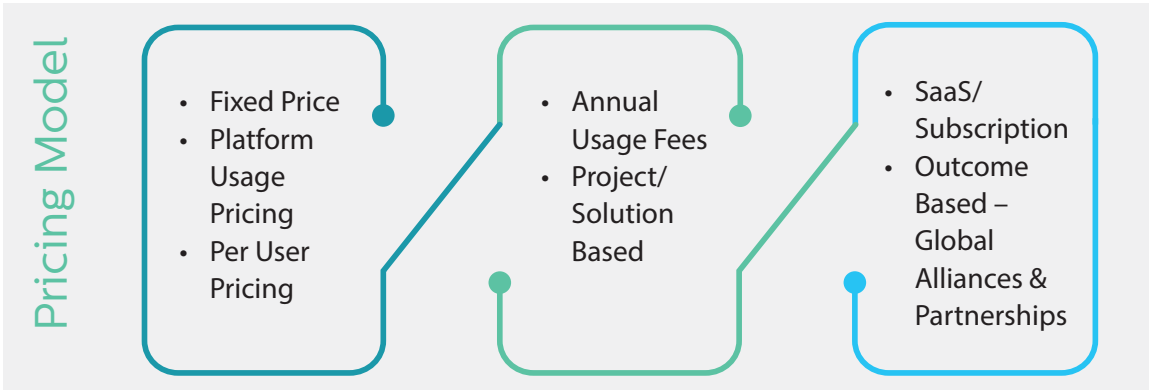
Growth Areas: Majority LCNC providers indicated a very positive outlook as they foresee more demand for solutions in Data collection/Process dominant/UI/UX driven segments.

Optimistic Scenario: Indian LCNC providers have the potential to further increase their global market share if all the stakeholders come together and work towards the recommendations.

- Digital first enterprises will continue to drive adoption and growth of low code no code
  - LCNC adoption across large enterprises will continue to be led by the IT services as Consulting, SI and Implementation partners for large LCNC providers
  - Adoption across SMBs will continue to be dominated by direct partnership with smaller LCNC providers which offer them better pricing and more customizable solutions

Outlook for India's LCNC Market





Sources: UnearthInsight and Nasscom Analysis

Recommendations - Building Awareness on LCNC and its Benefits is Critical for Pushing its Adoption across Sectors

LCNC Providers

Custom Pricing Models

- Develop unique pricing models to engage mid size/ small firms who typically operate with lower overall tech budgets.

Partner with Mid Size and SMB IT Services Firms

- Popularize Indian LCNC solutions through Partnership with Mid to Small Size IT services firms.

Build Talent Pool & Focus on Skilling

- Build LCNC Talent Pool for skills like OPA5 Framework, SOAP, REST, JavaScript, HTM5, UI/UX, Analytics through Training Partners, IT Services Partners and Education Institutes/Universities

LCNC Adopters

Strong Leadership Commitment

- Budget – Considering the Benefits that LCNC offers, both large and SMBs need to create a LCNC budget as part of their tech budget to try out the available solutions.
- SPOC – Corporates to have a dedicated LCNC SPOC who will focus on Research for LCNC Solutions ➔ Identify Sector Specific LCNC Solutions ➔ Pilot ➔ Full Scale deployment.

Associations

Building Awareness around Low Code No Code

- Increase Awareness of Low Code No Code Solution in partnership with providers through:
  - Roundtables
  - Conferences
  - Webinars
  - Case Studies Compendiums and other related reports

Support Providers on Reskilling

- Provide support in reskilling the incoming tech talent in the country by driving courses relevant for LCNC development skills:
  - On portals such as future skills
  - In partnership with educational institutes/ universities

“

Adopting a LCNC platform for your business gives you a competitive edge by making processes more efficient by optimizing the use of resources. The end result you get is an increase in revenues and reduction in costs at the same time. As more and more companies go digital, the relevance of such LCNC platforms will only increase in the coming years.

Sachin Vijan,
Director Technology, Naggaro

Note: Provider includes both LCNC Providers as well as Implementation Partners
Sources: LCNC Adopter Interviews/ Expert Discussions

APPENDIX

CASE EXAMPLES

Data Synchronization with limited bandwidth made possible with Agile Lab's AXPERT for Uniworld Logistics

Problem Statement

Uniworld Logistics, is as one of the most versatile Logistics service provider in the industry. The company has many co loaders across the globe. Thus, they required a system to exchange data with their co loaders. The long job cycle in their current system was a real pain for the data entry operators. Also, the manual way of calculating job profits resulted in error prone MIS reports.

Solution

Agile Lab implemented Logistics Operation Package to cover freight forwarding operations of UWL covering Air / Sea imports and exports, in all branches of UWL, in 6 Calendar months (including rollout in all branches)

Finance and CRM Module – General ledger, Account Receivable, Accounts Payable, Bank Reconciliation modules, were implemented in all branches next.

Payroll module was implemented in 10 days time. **Employee Portal –** for the employees to view / edit their personnel information and to view notice board information.

Overseas Rollout – Rollout of Operations Package in Shanghai, Hong Kong and Singapore.

Impact and Benefits

- Improved shipment tracking.
- Smart Client- a single point master creation that helps synchronization between various branches.
- A highly efficient Job Costing algorithm provides accurate costing information.
- Better control over invoice creation and job cycle
- Instant Profitability analysis instead of end of the month calculations
- Single screen view of entire process- Easy navigation through the inbox concept
- No redundant data entry. Automated finance voucher creation.
- The number of head counts in Accounts department reduced by 40 %.
- Automatic creation of jobs and on time manifestation.
- Manifestation time reduced from 20 min to 3 Min
- Enhanced irregularity monitoring and proactive system alerts
- Better Credit Control.

Scale of Deployment

- Installed in 18 branches across the globe
- Each branch at an average generates 5000+ invoices (Job Orders) and records 7000 supplier bills per month.
- 25,000 to 30,000 invoices raised per Month
- The incremental data from all the branches are synchronized to HO and vice versa, in an interval of 15 mins
- 4,00,000 transactions per year/ country.

Sources: LCNC Provider Interviews/ Expert Discussions

Decimal Technologies' Vahana for an Indian Bank

PROBLEM STATEMENT

To transform the banking scene in Indian market with next-gen digital banking platform featuring face-to-face interaction

To make **banking simple** for its customers and excel in customer service

To create digitized onboarding journeys and create **video banking solution** to ease customer interaction with the bank in today's all remote environment

To **enable online access** for basic needs like Current Account, Savings Account, Fixed or Recurring Deposits and a referral program

In the **lending space** the bank wanted to enable the credit card business and their customer onboarding

SOLUTION

Digital solution eased customer onboarding journey, service requests, provided concierge service to end customers and allowed for video KYC. Vahana's impressive integration capabilities allowed the platform to seamlessly integrate with bank's core banking solutions and external video partner.

A **video banking solution** to allow customers to access a complete complement of financial services online, featuring face-to-face interaction with a banker via video chat.

A **lead management system** to allow customers to refer and earn.

Liability side assisted journeys such as CASA, TD, RD as well as self-journeys like savings account and fixed deposits.

IMPACT

Vahana developed a cutting-edge digital banking platform to extend the bank's services digitally and allow customers to seamlessly interact with the bank for all purposes.

Vahana's rapid application development capabilities, time to go-live and the speed with which the team could make changes in today's agile environment is incomparable. The team was able to go live for solutions in 40% time compared to a typical custom development.

This created a leadership opportunity for the bank for being first mover in small banking space with great innovations and customer experience.

Sources: LCNC Provider Interviews/ Expert Discussions

Drona HQ for Mondelez

Problem Statement

Mondelez experienced resistance in the minds of their sales representatives to accept digital methods to achieve their goals. Mondelez needed a solution to increase employee engagement and promote product knowledge development. They needed a robust solution they could easily iterate upon to keep meeting business needs across various markets.

Low adoption

High Resistance towards technology platforms

Low Engagement

Employees have low product knowledge development

Repeated Iterations across multiple geographies

Solution

Mondelez used the Drone platform to launch 'Gamification as a Service'. They built three apps in four weeks: A Photo Contest app, a Sales Contest app and a Quiz app. The Photo Contest App is like the Instagram of Mondeléz. Similarly, the Sales Contest App and Quiz App are being used to drive more sales and test product knowledge of the Sales Reps.

Impact and Benefits

The Apps are helping Mondelez in driving engagement and productivity of its salesforce while increasing the market penetration for its newly launched product or product innovations across different markets. They are also allowing the company to gain consumer insights and drive essential KPIs. Gamification proved to be a mechanism that reduced stress while driving engagement.

Scale of Deployment

The platform enabled them to use these services across China, Philippines and countries in Latin America without making any major changes. They plan on further developing the apps to evaluate a host of business requirements around L&D and New Product Launches.

Sources: LCNC Provider Interviews/ Expert Discussions

eNextCloud's platform for a large manufacturing client helped extend their existing solutions through integrated applications

PROBLEM STATEMENT

One of the world's largest manufacturers was out looking for a solution to extend their SAP and allow integration; The existing off-the-shelf applications required min of 30-40% of customization, which became too expensive and time consuming.

Challenges faced:

Multiple platforms being used in house and integration was a big task for them.

Data migration from legacy systems. Deployment of large legacy solutions took too much time to deploy and train their employees.

Communication between multiple stakeholders was all over the place and their smallest of operations were taking a lot of time to complete

SOLUTION

No Code solution deployed to build a complete solution for the client within a span of 2 weeks, which was at par with off the shelf solutions- along with many more benefits of faster development and customization.

Customized application built for the client within 2 weeks

Data migration- integration with their internal systems was achieved much faster with No Code approach

Single application Client had clear view of their entire operations in a single application

IMPACT

Data migration and storage integration with their internal systems was achieved much faster with eNextCloud No Code approach.

Manual work was removed and they could see massive increase in productivity.

Clear view of their entire operations in single application.

Return on investments customer understood the agility and benefits of No code solution and could see the ROI within weeks rather than waiting for months just for deploy a readymade solution which will again have to customize for many more months and was very expensive.

Sources: LCNC Provider Interviews/ Expert Discussions

Quixy helps Nekkanti Seafoods increase their productivity by 15%

PROBLEM STATEMENT

Brief: Nekkanti Sea Foods Limited (NSFL) is one of India's largest exporters of seafood. It has its processing facility in Visakhapatnam. They have been exporting substantial quantities of Fresh Water Shrimps in various product forms, raw, cooked, and blanched to various international markets.

Challenges Faced: Paper-Based Data Processing was tedious, and time taking and led to issues such as- errors and discrepancies caused by manual data recording of materials being processed and of the workforce involved resulting in Information Silos Proliferation and Inaccurate Performance Measurement.

SOLUTION

NSFL used the Quixy platform for decentralizing application development to empower process owners to build solutions for their challenges without depending on the central IT Team. They set up a core platform across various departments while the central IT team put together the necessary governance and monitoring structure to ensure that processes automated across different departments seamlessly integrated without any information silos and data redundancy.

IMPACT

Quixy helped Nekkanti's staff automate high-impact paper and excel-based processes involved at various stages of seafood processing.

Single Source of Truth-The automated system helped eliminate errors and reconciliation issues from the manual recording of data, improve productivity & efficiency, and brought transparency into operations.

Nekkanti improved its productivity by over 15% and reduced the application development time by over 60%.

Sources: LCNC Provider Interviews/ Expert Discussions

Wizergos provided Virtual Assistance for Contact Center Agents at a leading Insurance firm in India

PROBLEM STATEMENT

Challenges Faced:

Contact Centre facing large volume quality issues

Specifically: Low First call resolution (FCR) and high error rates

Agents need to look up many different databases: user, policy, claims

Agents need to know many complex rules and regulations across products

SOLUTION

An Intelligent virtual assistant that can access all relevant information from all systems and guide the agents during the call.

Business team wrote down detailed flows and rules that the virtual assistant can use.

IMPACT

Agility and Flexibility- In the third month of Wizergos development the app could handle upto 30 flows in two months- up from 1 flow in 6months via the traditional development method

Time to Market & flexibility - The app was built 10X faster and made rapid changes possible on real time basis

The solution provided was scalable, secure, with the capacity to handle 10 M messages per month, being used by 1000 employees and had a robust scale out architecture

Sources: LCNC Provider Interviews/ Expert Discussions

Research Methodology

Research Approach

Identification of Low Code No Code (LCNC) Adopters and Providers

Created List of 100+ LCNC Adopters and Providers

Research Interviews & Surveys with 60+ LCNC Adopters and Providers Globally and in India

45+ Interviews of Providers and Adopters

- Providers (35) – CEO/ Product Head Interviews to assess adoption trends, clients, trends/insights
- Adopters (10 - Sector Specific Corporates) – Interview CIO/Tech Teams adopting LCNC solutions across Core Operations, Finance, HR, Supply/ Logistics etc.
- 15+ Surveys of Adopters

Desk Research/ Secondary

Company Wise –News Articles and Interview of CXOs

Detailed Secondary Research on Global and India Specific Trends and Insights

Estimations, Expert Interview & Final Analysis

Discussion with 20+ Industry Experts, CEO/Founders & Sales teams of Product companies for deeper insights & trends

Revenue Extrapolation, Horizontal/Vertical and GEO Analysis

Acknowledgements – LCNC Providers and Adopters

This report has been developed through a comprehensive study to understand the current state of Low Code No Code adoption in India. The preparation of this report has been facilitated by 10 adopter and 50 provider companies through direct inputs, and several organizations who have extended expert guidance. We wish to sincerely thank the following organizations, and all others, for contributing via direct participation and inputs through sharing of content, advice, and recommendations, as well as, through informal discussions.

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About Nagarro

Nagarro is a global digital engineering leader with a full-service offering, including digital product engineering, digital commerce, customer experience, AI and ML-based solutions, cloud, immersive technologies, IoT solutions, and consulting on next-generation ERP. We help our clients become innovative, digital-first companies through our entrepreneurial and agile mindset, and we deliver on our promise of thinking breakthroughs.

We have a broad and long-standing international customer base, primarily in Europe and North America. This includes many global blue-chip companies, leading independent software vendors (ISVs), other market and industry leaders, and public sector clients. Today, we are over 15,000 experts across 28 countries, forming a Nation of Nagarrians, ready to help our customers succeed.

About UnearthInsights

UnearthInsight delivers critical market information to drive decision insights for CXOs and equips them with actionable insights to understand the opportunity and prepare the market strategy. UnearthInsight depends on database gathered from more than 20 countries, more than nine million start-ups globally along with over 32,000 start-ups and private firms in India. On an average more than 25 data elements are injected daily in the data pool. It relies on strong social capital built over the years with key industry leaders and clients such as Accenture, EY, HCL, Tech Mahindra and Mphasis.

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