Next-Gen Application Development & Maintenance (ADM) Services
Global 2019-20

Quadrant Report

A research report comparing provider strengths, challenges and competitive differentiators

Customized report courtesy of:

Mindtree
Welcome to possible
About this Report

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The research and analysis presented in this report includes research from the ISG Provider Lens™ program, ongoing ISG Research programs, interviews with ISG advisors, briefings with services providers and analysis of publicly available market information from multiple sources. The data collected for this report represents information that ISG believes to be current as of July 2019 for providers who actively participated as well as for providers who did not. ISG recognizes that many mergers and acquisitions have taken place since that time, but those changes are not reflected in this report.

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EXECUTIVE SUMMARY

Next-Gen ADM

Customer preferences and demand patterns are evolving and shifting toward rich user interfaces, dynamic (applications), responsive features, speedy updates and releases and responsiveness. As a result, the outlook of next-generation application development and maintenance (ADM) is undergoing a gradual transformation and aligning to accommodate the requirements of enterprise clients. The ADM practices of service providers are aimed at addressing these requirements by leveraging artificial intelligence (AI), automation, agile and innovation as the key tenets.

One of the aspects that facilitate this change is the increased usage of automation, AI, machine learning (ML) algorithms and bots/assistants in the development lifecycle. This helps in simplifying and minimizing the coding efforts, leading to a faster application development release. It also enables error detection, code refactoring and interpretation of business rules (written in arcane coding languages), bugs fixes and other functions in the lifecycle. Agility is another factor that has become a cornerstone in ADM and is finding tighter integration with the development and testing functions of ADM. The emergence of low-code development is also gaining prominence and contributes to agility. This is driven by the need to produce codes at a rapid rate by eliminating the need for coding expertise, thus resulting in faster turnaround time. Security has found tighter integration, both from the points of view of protecting intellectual property and of applicability in the testing value chain across areas such as non-functional tests.

Agile Development

Service providers are expanding the base of their trained resources on methodologies such as scrum, Kanban and extreme programming to accelerate agile maturity and shift away from traditional application delivery to inculcate an agile mindset. There is a certain degree of similarity among services providers regarding the approach to agile in terms of offering proprietary frameworks and use of tools. They are partnering with bodies such as Scaled Agile Framework (SAFe), automation tool providers such as Docker, Ansible and Jenkins and getting certifications on Scrum Alliance, Scrum.org, SAFe and Disciplined Agile Delivery (DaD) to create an agile workforce base. However, managing the change from an organization change management perspective is an area that needs greater focus as providers face the task of delivering services and managing scale across geographies and teams. Facilitating the creation of an agile mindset across the growing resource base, combined with skills management and standardization of agile delivery, are the areas that will take time to mature.
Continuous Testing

Continuous testing has become a mainstream practice of service providers to entrench it as an integral part of their agile and DevOps delivery. Its importance can be gauged by the popularity of the shift left practice that is becoming a norm in the continuous testing domain. Some of the leading services delivered by providers as a part of continuous testing include functional tests, TDD, BDD and performance testing (left-shifted). Automation is finding an increased adoption within the continuous testing lifecycle across test case management, automation engineering services and proprietary tools and intellectual property as providers seek to embed it within testing practices to accelerate application release. AI is also being used in testing platforms to improve agility and predictability across various phases.

DevOps Consulting

The boundaries of DevOps are witnessing overlaps with agile, and intersections between the two are clearly visible in the industry. DevOps is gaining momentum among service providers that are considering it as one of their delivery pillars for application development. Leading service providers are integrating their services with key DevOps principles of people over process over tools, lean management, continuous integration and continuous delivery and feedback. Using DevOps, providers are breaking silos in communication and collaboration and delivering various functions of continuous delivery, continuous planning, continuous integration, configuration management, continuous testing, monitoring and continuous feedback as a part of their overall approach. The addition of automation and tools in the DevOps delivery ensure the availability of metrics, visibility across the pipeline and a reduction in work efforts. Service providers are also adopting and training their resources on popular open source tools for various functions to meet customer business requirements.
Introduction

Definition

In the recent past, application outsourcing has evolved from being led by a traditional waterfall-based development approach into one that has incorporated overtures of disruptive agile-based operating models and DevOps. The changes in this domain have been fueled by the dynamic requirements of customers seeking rich user interface and application experience, feature rich, fast and secure application updates, and multi-form factor applications.

Enterprises are adapting to this changing requirement by enabling faster releases and deployments of application services. Application outsourcing models are not always the same, as buyers and users have different needs. Typical application development and maintenance (ADM) services include application consulting, designing, custom development, packaged software integration, operations, quality assurance, security and testing. However, the elements related to speed and faster releases in this traditional approach come from DevOps and agile methodologies.
Definition (cont.)

There has been a rise in the number of contracts wherein clients want to leverage software capabilities to solve business problems and gain a competitive advantage, along with a growing need for speed-to-market. Service providers are augmenting their traditional ADM base with these emerging methodologies, technologies and collaborative frameworks to meet their clients’ objectives. ISG terms such contract types as next-generation ADM contracts.

This study is aimed at understanding the client objectives and assesses provider capabilities to deliver on next-generation ADM contracts.

Scope of the Report

The ISG Provider Lens™ study offers IT decision makers:
- Transparency on the strengths and weaknesses of relevant providers;
- A differentiated positioning of providers by segments;
- Focus on different markets, including global, the U.S., Germany, the U.K., Brazil and the Nordic countries.

The study serves as an important decision-making basis for positioning, key relationships and go-to-market considerations. ISG advisors and enterprise clients also use information from these reports to evaluate their current vendor relationships and potential new engagements.
Definition (cont.)

Next-generation ADM Services

Like traditional application services, next-generation ADM services cover consulting, design, customized development, packaged software integration, DevOps, agile, operations, security (including application security, governance and other related areas) and testing. However, the scope, delivery mechanism and outcome for such contracts pivot around a value-based approach, where the focus is on achieving enterprise agility and solving business problems. This quadrant will assess vendors based on their capability to augment traditional ADM services with emerging technologies/methodologies like agile development, DevOps, automation, data analytics and artificial intelligence (AI) and digital and modernization techniques to deliver application lifecycle projects. It will also assess the provider’s capabilities in incorporating new approaches to deliberately focus on business results during the development and delivery of applications.

Agile Development

Agile development is mainly focused on the frameworks and principles of agile, a collaborative way of working in uncertain circumstances. In the software development domain, it showcases an incremental and iterative approach to application development with the ability to adapt and respond to change as the key tenets. Because agile encompasses frequent, short development cycles and early releases of the software product, enterprises view it as a means to attain enterprise agility. It includes frameworks such as scrum, extreme programing, feature-driven development (FDD) and the dynamic systems development method (DSDM).

This quadrant will assess the capabilities of a provider to deliver tangible results through various agile methodologies such as scrum, Kanban, Crystal and extreme programming. It will also look examine the focus towards the use of agile development with respect to the provider’s overall application development practice.
Definition (cont.)

Continuous Testing
Continuous testing is focused on delivering quality assurance quickly. In terms of technology, it encompasses various aspects of automated testing such as shift left and end-to-end automation across testing phases and at every phase of the continuous delivery process. However, in terms of people and processes, it goes beyond automation-based testing. Thus, it accomplishes higher collaboration among QA and development teams to sync with sprint cycles, feature-driven testing, responsiveness to change, creation of a feedback loop and greater client involvement. Continuous testing is gaining momentum, especially to help enterprises keep pace with their agile and DevOps initiatives.

DevOps Consulting
DevOps is a type of software development practice that combines development and technology operations to shorten the software development life cycle (SDLC). To achieve this objective, it involves three key principles: system thinking, feedback loops, and continuous experimentation and learning. Some of the methodologies involved in DevOps include lean management, continuous delivery, and people over process over tools.
## Provider Classifications

The ISG Provider Lens™ quadrants were created using an evaluation matrix containing four segments, where the providers are positioned accordingly.

<table>
<thead>
<tr>
<th>Leader</th>
<th>Product Challenger</th>
<th>Market Challenger</th>
<th>Contender</th>
</tr>
</thead>
<tbody>
<tr>
<td>The “leaders” among the vendors/providers have a highly attractive</td>
<td>The “product</td>
<td>“Market</td>
<td>“Contenders” are still lacking mature products and services or sufficient</td>
</tr>
<tr>
<td>product and service offering and a very strong market and competitive</td>
<td>challengers” offer</td>
<td>challengers” are</td>
<td>depth and breadth of their offering, while also showing some strengths and</td>
</tr>
<tr>
<td>position; they fulfill all requirements for successful market</td>
<td>a product and</td>
<td>also very</td>
<td>improvement potentials in their market cultivation efforts. These vendors</td>
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<tr>
<td>cultivation. They can be regarded as opinion leaders, providing</td>
<td>service portfolio</td>
<td>competitive, but</td>
<td>are often generalists or niche players.</td>
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<tr>
<td>strategic impulses to the market. They also ensure innovative strength</td>
<td>that provides an</td>
<td>there is still</td>
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<tr>
<td>and stability.</td>
<td>above-average</td>
<td>significant portfolio</td>
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<td>coverage of</td>
<td>potential and they</td>
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<td></td>
<td>corporate</td>
<td>clearly lag behind</td>
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<td></td>
<td>requirements, but</td>
<td>the “leaders.”</td>
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<td>are not able to</td>
<td>Often, the market</td>
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<td>provide the same</td>
<td>challengers are</td>
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<td></td>
<td>resources and</td>
<td>established vendors</td>
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<td></td>
<td>strengths as the</td>
<td>that are somewhat</td>
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<td></td>
<td>leaders regarding</td>
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<td></td>
<td>the individual</td>
<td>trends, due to their</td>
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<td></td>
<td>market cultivation</td>
<td>size and company</td>
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<td></td>
<td>categories. Often,</td>
<td>structure, and have</td>
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<td></td>
<td>this is due to the</td>
<td>therefore still some</td>
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<td></td>
<td>respective vendor’s</td>
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<td></td>
<td>size or their weak</td>
<td>optimize their</td>
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<td></td>
<td>footprint within</td>
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<td></td>
<td>the respective</td>
<td>increase their</td>
<td></td>
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<td></td>
<td>target segment.</td>
<td>attractiveness.</td>
<td></td>
</tr>
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</table>

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Rising stars are mostly product challengers with high future potential. When receiving the “rising stars” award, such companies have a promising portfolio, including the required roadmap and an adequate focus on key market trends and customer requirements. Also, the “rising stars” has an excellent management and understanding of the local market. This award is only given to vendors or service providers that have made extreme progress towards their goals within the last 12 months and are on a good way to reach the leader quadrant within the next 12-24 months, due to their above-average impact and innovative strength.
## Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 1 of 3

<table>
<thead>
<tr>
<th>Next-Gen ADM</th>
<th>Agile Development</th>
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<td>● Leader</td>
<td>● Leader</td>
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# Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 2 of 3

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## Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 3 of 3

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Next-Gen Application Development & Maintenance (ADM) Services Quadrants
Like traditional application services, next-generation ADM covers consulting, design, custom development, packaged software integration, DevOps, agile, operations, security (including application security, governance and other related areas) and testing. However, the scope, delivery mechanism and outcome for such contracts pivot around a value-based approach, where the focus is on achieving enterprise agility and solving business problems. This quadrant assesses vendors based on their capability to augment traditional ADM services with emerging technologies/methodologies like agile development, DevOps, automation, data analytics, artificial intelligence (AI) and digital and modernization techniques to deliver application lifecycle projects. It also evaluates the provider’s capabilities in incorporating new approaches towards business results during the development and delivery of applications.

Source: ISG Research 2019
Eligibility Criteria

- Ability to offer the lifecycle of ADM services, which includes design, development, integration security and testing along with consulting;
- Ability to showcase the execution and use of emerging technologies/methodologies like agile, DevOps, chaos re-engineering and automation in their ADM processes;
- Capability to offer digital and modernization techniques for legacy application modernization and replacement.

Observations

- Some of Accenture’s key differentiators include its strong digital-focused approach, industry-specific tooling capabilities for development, technology-aligned delivery, and partnerships with industry players such as SAP.
- Atos’ Syntel acquisition and partnerships with Google and CloudBees focus on building industry expertise, and emerging capabilities in data science, AI, DevOps, RPA and low-code platforms make it a leader in the next-generation ADM domain.
- Capgemini’s large next-generation ADM practice, well-defined ADMnext delivery framework, new ADM automation and design components, network of delivery centers for emerging capabilities have made the company one of the leading providers of next-generation ADM services.
- Cognizant has a well-formulated ADM strategy that is supported by proprietary frameworks and models that span service management, system management and business management. These aspects make the company a leader in the next-generation ADM domain.
- DXC’s proprietary Bionix™ platform and the Luxoft acquisition have given the company a good mix of services delivery platform and execution capabilities at scale across the application services portfolio.
HCL’s unified story for digital and agility, delivered through proprietary frameworks, and acquisition-led progression make it a good choice for large scale agile-led digital transformation services.

IBM’s deep-seated expertise in next-generation ADM, combined with a strong skilled workforce, network of innovation centers, consulting expertise and delivery capabilities, makes the company a strong player in this domain.

Infosys offers a strong ADM portfolio that is comprised of frameworks, tools, accelerators. It also has strong consulting expertise and innovative pricing models, making it a leader in this domain.

LTI’s new NWOW practice, focused on the banking financial services and insurance and manufacturing sectors, and its accelerators, platforms and acquisitions make it an emerging leader.

Mindtree’s integrated operating model for agile, DevOps and automation in one integrated framework along with agile delivery for industry-specific, cloud-based business applications make the company a leader.

TCS’ investments in developing digital, new products, platforms and models, coupled with its focus on process digitization and advanced analytics make the firm a leader in the domain.

Tech Mahindra has a broad ADM portfolio and offers industry standards-based methodology along with tools and accelerators, making it a leading service provider.

Wipro has strong ADM expertise, focused investments in AI, a clear strategy for DevOps, merit-based top talent mobilization by leveraging Topcoder, and an emphasis on being cloud native.
Mindtree is one of the leading IT service companies with more than 21,000 employees and operations in 17 countries. It delivers ADM services as part of its digital-next enterprise approach, including digital experience platforms, design, cognitive experiences, intelligent automation, applied AI, insights-as-a-service, legacy modernization, cloud transformation and multi-speed IT. ADM revenues stood at $817 million and its number of FTEs was close to 16,250. Mindtree has 14 delivery centers around the world.

**Digital Pumpkin — digital innovation hub:** Mindtree has a digital innovation hub called Digital Pumpkin based in Warren, New Jersey, and Bangalore, India. It serves as an interactive space where multi-disciplinary teams come together to ideate, design and craft meaningful business solutions. It provides a collaborative platform to help clients accelerate digital innovation, conduct primary research and create functional prototypes and piloteable solutions.

**AI-centered modernization:** Mindtree uses AI and a cloud-first strategy to modernize the core. The company has tapped into AI for legacy modernization, which is comprised of data infrastructure modernization, COTS transformation, service automation, application modernization cloud transformation of cloud-native applications and serverless computing and intelligent automation.

**Product IT models:** Mindtree uses different IT models such as CAPE (Composable Automated Platform for Enterprises) to visualize the IT lifecycle, accelerate end-to-end integrated automation and perform real-time decision making through unified dashboards. DTEP, MIST and CPE are integrated with dashboards and metrics to provide an accelerated end-to-end testing platform. MWatch and CodeMill are used to provide automated service delivery and automated code generation.

Mindtree offers ADM services using its own resources for digital cloud, data analytics, IoT, digital commerce, digital marketing, mobility, user experience design and other areas. However, the company should consider evaluating emerging vendors with niche capabilities in related domains, which would support organic growth.
Agile development is mainly focused on the frameworks and principles of agile, a collaborative way of working together in uncertain circumstances. In the software development domain, it showcases the incremental and iterative approach to application development with the ability to adapt and respond to change as the key tenets. Because agile encompasses frequent, short development cycles and early releases of the software product, enterprises see it as a medium for attaining enterprise agility and with frameworks such as Scrum, extreme programing, feature-driven development (FDD) and the dynamic systems development method (DSDM).
AGILE DEVELOPMENT

Eligibility Criteria

- Run a dedicated team of agile-certified scrum masters with certifications such as PMI-ACP, Scrum Alliance SCM, Scaled Agile Framework (SAFe®) and EXIN;
- This quadrant will assess the capabilities of a provider to deliver tangible results through various agile methodologies like scrum, Kanban, Crystal and extreme programming (XP). It will also look at the focus a provider has toward agile development with respect to its overall application development practice.

Observations

- **Accenture**'s adoption of SAFe, focused AutoScrum approach to product development using lean, and investments in enhancing its capabilities through acquisitions make it a strong player in agile development.
- **Capgemini**'s lean-based agile approach, network of agile delivery centers, industrialized distributed agile framework and SAFe-focused agile framework have propelled the firm to a leadership position in this segment.
- **Cognizant**'s agile practice is well supported by a large pool of skilled agile practitioners, continuous delivery approach, partnerships with leading automation tool vendors and industry practices such as scrum, extreme programming, DSDM, lean, SAFe and Kanban.
DXC Technology’s well-spread base of scrum-trained agile practitioners, structured approach to agile adoption, and integration with Bionix™ and RDD platforms make it a player to watch out in this domain.

HCL’s efforts to inculcate an agile mindset using gamification, along with acquisitions to broaden its capabilities in experience design and analytics, make it a leader in this segment.

Infosys’ agile practice includes coaches, scrum masters and development engineers to deliver agile services through a distributed agile model. Its industry partnerships and robust practice make the company one of the forces to reckon with in the agile development domain.

IBM integrates agile throughout the application development lifecycle through agile tooling, agile processes and frameworks. This makes the company a strong player in this space.

Mindtree’s cultural transformation-focused approach to agile, along with the ROI-focused GATE² framework and learning-focused agile delivery, make it a leading provider of agile development services.

Softtek’s agile nearshore model and investments in R&D make the firm a strong player in the agile development domain.

TCS has a well-established robust agile practice and delivers these services through 145 delivery centers using a defined agile operating model. The firm is well placed to cater to large-scale complex agile requirements of enterprises.

Wipro offers a 3D proprietary framework, House of Agile-DevOps, outcome-focused delivery of agile services, and a trained workforce on scrum, Kanban and extreme programming models that are focused on agile delivery.
Mindtree generated $620 million in revenue from agile in 2018. The company has more than 6,000 employees in its agile development practice and 11 delivery centers. Some of the enablers spread across consulting, coaching and delivery for a successful agile journey are comprised of executive workshop, continuous improvement, globally distributing agile, agile journey roadmap, innovation factory, new program launch, GATE framework, agile assessment, product management, release management, agile training and integrated services and solutions.

**Overview**

Mindtree offers agile transformation as a cultural transformation that is based on a journey of continuous improvement by focusing on three primary components, namely individual, social network and environment. The individual component is focused on explaining the importance of agile to individuals in agile teams and equipping them with all the tools to be successful. The social component addresses the creation of social networks to support agile during a difficult transformation period. Environment looks into the collaboration aspect that workspaces should address.

**Global Agile Teams for Enterprise (GATE)**: Mindtree’s GATE framework supports onsite agile delivery and enables innovation to enhance return on investments. The company has partnered with customers to collaboratively refine cutting-edge product ideas before they commit to funding long-term development. As a part of this approach, the onsite R&D team determines the viability and complexity of productizing new features from the innovation backlog. The team creates stubbed functional prototypes or visualizations to be piloted to a targeted market. After the insights from the pilot are evaluated, the organizations can determine to productize the feature with delivery teams onshore and offshore.

**Global network of delivery centers**: Mindtree’s leading delivery centers are based in India, the U.S. and the U.K. with the largest base of developers at the Bangalore delivery center. The agile-focused centers in Dallas and Atlanta have high-tech ideation labs that enable collaboration for innovative solutions. Each of the five delivery centers in India (Bangalore, Chennai, Pune, Hyderabad and Bhubaneshwar) have a mix of FTEs who are being constantly trained in the company’s core ADM technology as well as next-gen technology.

*Caution*

Mindtree has a vista-level partnership with CloudBees for Jenkins, but it needs to extend to other packaged tool vendors such as Chef, Docker and Puppet.
Continuous testing is focused on delivering quality assurance at speed. In terms of technology, it encompasses various aspects of automated testing such as shift left and end-to-end automation across testing phases and at every phase of the continuous delivery process. However, in terms of people and processes, it goes beyond automation-based testing. Thus, it accomplishes higher collaboration among QA and development teams to sync with sprint cycles, feature-driven testing, responsiveness to change, creating a feedback loop and greater client involvement. Continuous testing is gaining momentum, especially to help enterprises keep pace with their agile and DevOps initiatives.
CONTINUOUS TESTING

Eligibility Criteria

- Ability to exhibit execution using test-driven development (TDD), behavior-driven development (BDD) and other approaches;
- Capability to exhibit the provision and use of service (test) virtualization processes.

Observations

- **Capgemini**'s use of test automation, large base of skilled resources, wide usage of automation tools, and a focus on continuous learning make the company a leader in the continuous testing domain.
- **Cognizant**'s testing practice is built on the base of automation-enabled offerings, intellectual property, accelerators and proprietary offerings that are delivered through a broad base of trained resources.
- **DXC Technology**’s global footprint of delivery centers, focus on talent investments, industrialized delivery centers, automation-led intellectual property and accelerators partnerships with tool vendors make the company a leader in this segment.
- **HCL** has a well-established continuous testing practice led by an automation-focused strategy and supported by its OneTest suite, proprietary tools, intellectual property and accelerators, giving the firm a leading position in continuous testing.
Continuous Testing

Observations (cont.)

- **Hexaware** offers test automation and continuous testing through the standardized automation-first approach and its Continuous Assurance Platform. It also offers proprietary in-house testing tools and plugins.

- **IBM** has a robust continuous testing practice led by the IGNITE framework and automation tools and frameworks. This makes the company a strong choice for large enterprises seeking expertise and scale in continuous testing.

- **Infosys**' strong footprint in continuous testing with shift-left efficiencies, intelligent automation framework, 3x3 pronged strategy, large set of intellectual property, tools and accelerators, and execution expertise make it a leader in continuous testing.

- **Mindtree**’s continuous testing practice serves a host of use cases and is well supported by resources trained on a variety of tools and proprietary frameworks. These capabilities make the firm a strong player in this domain.

- **TCS** offers frameworks for testing, support for tools (such as Selenium and Jenkins), proprietary assets, tools and accelerators. The firm has a large global geographic presence.

- **UST Global** has a good mix of trained resources on a variety of automation tools as well as industry partnerships with ecosystem players, making it stand out in the testing domain.

- **Wipro**’s resource base is trained on varied testing requirements and has a repertoire of assets for test environments. It has a strong focus on localization and QA as a service, based on Topcoder.

- **LTI** offers a series of frameworks, tools and accelerators that enable early detections, improve code quality and provide predictive insights. This makes the company a rising star in this domain.
Mindtree is a leading IT services provider headquartered in Warren N.J. The firm made a revenue of $116 million in 2018 and has over 2,200 resources dedicated to the continuous testing practice with a large resource base focused on functional test execution automation (UI, data driven, API), test design automation and risk-based automation. It has more than 34 clients along with innovation labs in Bangalore and Pune.

**Automation through testing lifecycle:** Mindtree offers automation across the testing lifecycle for practices such as test design, defect logging, test orchestration, environment provisioning and test activities through bots. It also leverages ML techniques to analyze past runs and estimate the time for the completion of the test suite.

**Test Transformation Experience framework:** Based on the “starting left” approach, this framework enables enterprise customers to evaluate their adoption and readiness on continuous testing and the DevOps tool chain.

**Accelerators for scale and expert delivery:** Mindtree offers accelerators for continuous testing and test automation such as DTEP3.0 (dynamic test engineering platform), MIST (Mindtree Integrated Script less Test Automation framework), BDD automation framework, continuous performance evaluation engine (CPE) and JIRA chatbot, combined with AI-driven defect prediction and analysis to accelerate the test journey.

Mindtree’s continuous testing practice serves a host of use cases and is well supported by resources trained on variety of tools and proprietary frameworks. These capabilities make the firm a leading player in this domain.
DevOps is a type of software development practice that combines development and technology operations to shorten the software development lifecycle. To achieve this objective, it involves the three key principles of system thinking, feedback loops, and continuous experimentation and learning. Some of the methodologies involved in DevOps include lean management, continuous delivery and people over process over tools.
Eligibility Criteria

- Ability to provide development teams with more than two to three years of experience in scripting languages such as Python, Perl, Shell and Ruby as well as operating systems like Linux and Unix.
- Possess application-level understanding of Git, Bucket (for source control), Jenkins, Bamboo (continuous integration), infrastructure automation (Chef, Puppet, Ansible), Docker (container) and Kubernetes, Mesos and Swarm (orchestration) among other areas;
- Ability to implement automation technologies and tools at any level, ranging from testing and operations to development.

Observation

- **Accenture** offers strong industry expertise, a structured platform for DevOps, integrated approach and complex delivery capabilities, making it a leader in the DevOps consulting domain.
- **Capgemini's** leading DevOps methods (for example, Kanban and Gemba) and its DevOps Maturity Assessment framework make the company a leading player in this domain.
- **Cognizant's** adoption framework, broad set of tools and accelerators that address various areas and an intelligent insight generating engine makes the company a strong player.
- **HCL's** robust DevOps practice envelopes the core philosophies of DevOps, well-laid out methodologies and change management, delivered through tools, proprietary assets. The company has emerged as a strong player in the DevOps domain.
Observation (cont.)

- **Infosys** presents a strong DevOps story to enterprises through its skilled base of DevOps practitioners, transformation and advisory-focused services, broad spectrum of industry coverage and a detailed DevOps maturity model.

- **TCS’** DevOps practices align well with the DevOps principles of system thinking and amplify feedback and continuous experimentation. The company also has a broad base of practitioners, standardized practices and methodologies.

- **Wipro** offers a detailed framework that cuts across release management, automation and continuous deployment areas. Its services are aligned to the requirements of different industry customers and are supported by tools and labs.
METHODOLOGY

The research study “ISG Provider Lens™ 2019-20 – Next-gen Application Development & Maintenance (ADM) Services” analyzes the relevant software vendors/service providers in the Global market, based on a multi-phased research and analysis process. It positions these providers based on the ISG Research methodology.

The study was divided into the following steps:

1. Definition of Next-gen Application Development & Maintenance (ADM) Services market
2. Use of questionnaire-based surveys of service providers/vendor across all trend topics
3. Interactive discussions with service providers/vendors on capabilities & use cases
4. Leverage ISG’s internal databases & advisor knowledge & experience (wherever applicable)
5. Detailed analysis & evaluation of services & service documentation based on the facts & figures received from providers & other sources.
6. Use of the following key evaluation criteria:
   - Strategy & vision
   - Innovation
   - Brand awareness and presence in the market
   - Sales and partner landscape
   - Breadth and depth of portfolio of services offered
   - Technology advancements
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