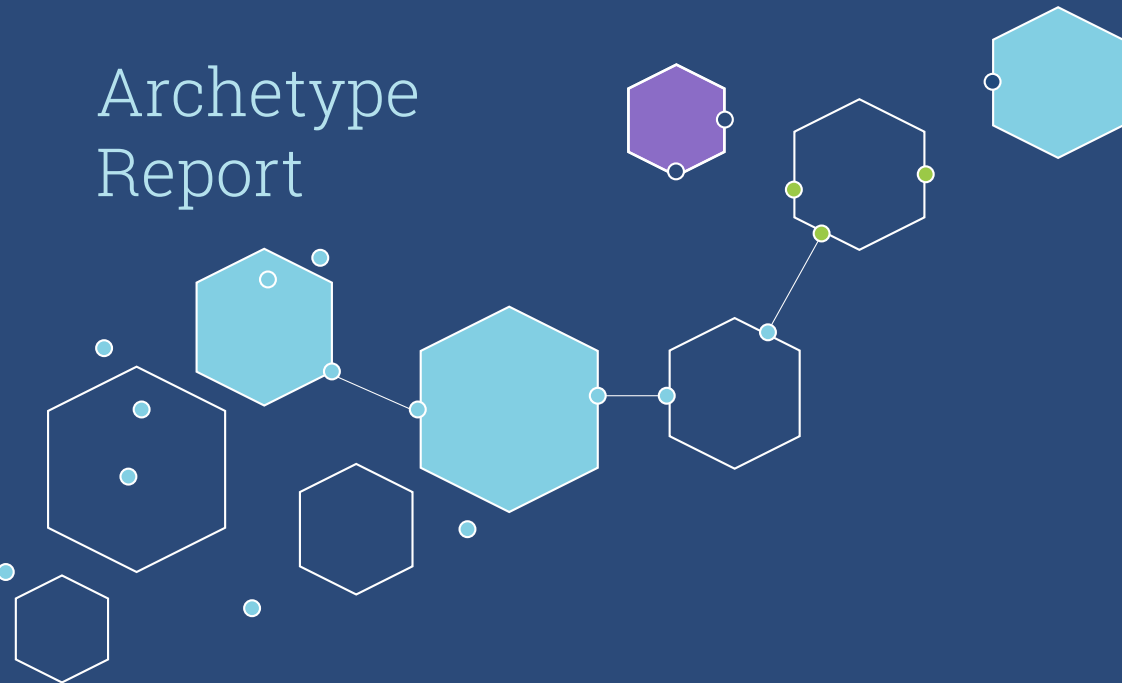# ISG Provider Lens™

Next-Gen Application Development and Maintenance Services

Archetype Report

A research report aligning enterprise requirements and provider capabilities

September 2021

About this Report

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The research and analysis presented in this report include 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 2021, 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.

All revenue references are in U.S. dollars ($US) unless noted.

The lead author for this report is Ashish Chaturvedi. The editor is Ambrosia Sabrina. The research analyst is Kankaiah Yasareni and the data analyst is ArulManoj M.
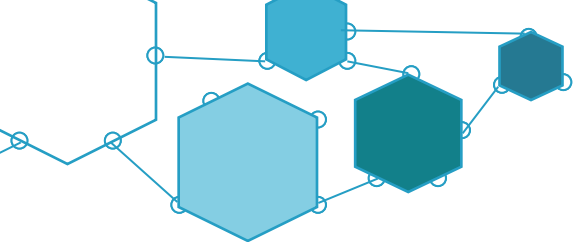
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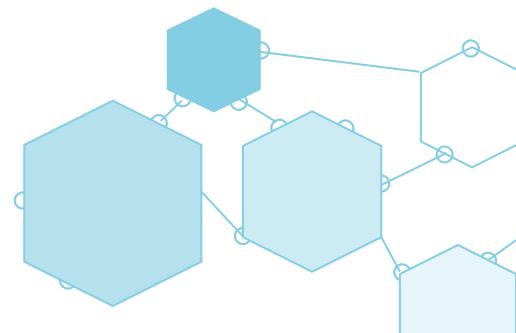
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EXECUTIVE SUMMARY

The Covid-19 Pandemic Triggers The Next Leg of Growth for Next-Gen ADM Deals

The onset of the pandemic has made multiple next-generation application development initiatives (ADM) initiatives such as migration to the cloud, overhauling of legacy architecture, elimination of silos, and implementation of omnichannel digital experience models a mandate for enterprises globally.

ISG has observed more enterprises accelerating their business agility journey in 2020. It was also a critical year in terms of increased organization collaboration, new ways of working, novel commercial models and an enhanced focus on continuous improvement initiatives.
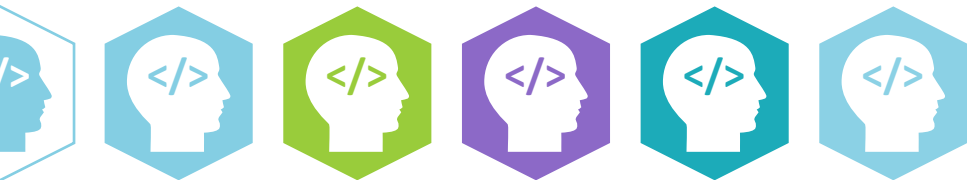
- **Ways of working:** Rather than stressing on the physical location of delivery teams, enterprises sought an organized structure that can enhance the value for the customer. In addition, providers found out new ways of getting teams to effectively collaborate (using online collaboration solutions) without physical interactions. Squad-based agile delivery is on the rise with teams being restructured in small, big and cross-functional groups called squads, tribes and chapters. This helped to ensure quick knowledge transfer (as existing teams exit and new team members enter) while increasing or maintaining current velocity and 360-degree operational visibility among other benefits.

- **Commercial models:** Instead of funding project outputs, enterprises have started to focus on business outcomes. This change of mindset allowed them to not just manage internal approvals but also gauge the market opportunity arising from each of the initiatives. Furthermore, flexibility in pricing the application outsourcing contracts has become the main parameter for defining client-provider relationships.

- **Continuous improvement:** Enterprises soon realized that it is better to keep elevating the end state of operational efficiency rather than treating it as a one-time or one-off effort.

There is a gradual shift from a project to a product-based thinking while considering the customer journeys and competitive features as well as leveraging domain knowledge in development. In term of scope, ISG is seeing an increase in the following trends and requirements for next-generation ADM engagements:

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1. Application enablement on hyperscalers, hybrid cloud and SaaS products;

2. Transition and consolidation to modern cloud-based platforms from a diverse range of legacy technologies;

3. Increased usage of proprietary and commercial DevOps tooling to accelerate the time to market;

4. Evolution of new business models while leveraging open ecosystems and architecture based on application programming interfaces (APIs) and micro-services; leveraging microservices, APIs and cloud-native architectures for new application development is now a de-facto phenomenon;

5. Implementation of robotic process automation (RPA), intelligent automation, predictive analytics and AI in IT operations for enhanced operational gains and cost benefits;

6. Adoption and maturing of low-code platforms across few application areas where rapid provisioning of applications and agility are paramount (such as building business applications);

Another key development is that providers are realizing the need to partner with multiple domain/industry product specialists and innovative tech startups. The report findings validate this hypothesis with all the adjudged leaders having a highly robust partner ecosystem in place. This phenomenon has elevated the leadership of many providers across multiple archetypes. Even if they don't excel in an area, they have a partnership to fill that whitespace. A partner cohort will compete and help run a next-generation ADM project. The space is expected to witness a flurry of joint go-to-market solutions, a series of acquisitions and provider-vendor beehives.

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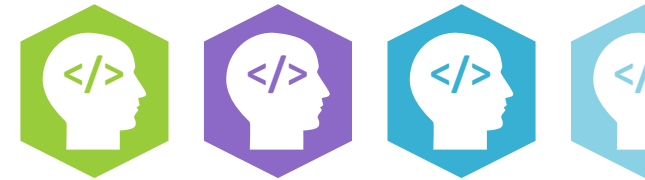
Introduction

Re-Platform, Modernize, Run Operations Efficiently

Application outsourcing is continuing to evolve and be driven by market growth, frequency of updates and an increase in feature-led intuitive and interactive digital applications. Service providers are increasingly adopting agile development practices for their service delivery. Building cloud-native applications have become a de facto service while scoping application modernization projects. Security is becoming integral to application development cycles from the outset and is being included in DevOps and throughout the continuous integration and continuous delivery (CI/CD) pipeline.

Leveraging software capabilities to solve business problems and gain enterprise agility is essential for application outsourcing contracts. Service providers are augmenting their traditional ADM offerings with advanced technologies (AI in operations or microservices-based development) and tailor-made roadmaps (combining digital, operational and technology goals) to meet their clients' objectives. ISG calls such contracts next-generation ADM contracts.

This study looks at the three kinds of buyer requirements that are prevalent in the applications space. They are looking to do away with old legacy applications, upgrade their technology stack to the latest version, or attain high-level efficiency in current operations to save costs and re-invest in business agility initiatives.

There can be instances where an enterprise's objective is a combination of all the archetypes. In such a scenario, it should consider a provider that has been judged a leader across all the three archetypes.

The report looks at the current sourcing trends and expanding provider capabilities in the next-generation ADM space, giving shape to three broad sourcing requirements. Some of the recent developments that were considered while envisioning the three archetypes include:

- **Scrum, SAFe® and Kanban individually surpassing waterfall development:** Such methodologies have become mainstream, giving an opportunity to providers to train their resources on each of them rather on traditional development methodologies.

- **Automation discussions in ITOps moving beyond RPA:** Although RPA is still witnessing a higher penetration, forward-looking companies are looking at AI and machine learning to not just automate manual repeatable processes but to preempt issues and remediate them in real time.

- **Business agility directly correlated to platformization:** Enterprises and providers are gradually reaching a consensus wherein a platform-based approach is the only panacea for achieving and maintaining the speed of operations. Enterprises are either looking to upgrade the existing SAP and Oracle ecosystems or build their own platforms to suit their needs. However, the goal in both cases remains the same: consistency, resilience and scalability.

- **Increased demand for cross-skilled resources:** Providers are seeking to hire resources who are experienced in multi-cloud environments or are certified on multiple commercial AIOps tooling. This is driven by the idea that enterprises don't require thousands of resources to win and work on large and complex ADM engagements.

About This Research

This ISG Provider Lens™ report summarizes the relative capabilities of 27 next-generation ADM service providers and their abilities to address the requirements of three typical, fre¬quently encountered categories of enterprise buyers referred to as archetypes. Each archetype represents a unique set of business and technological needs and challenges. The research found no shortage of providers with capabilities adequate to satisfy next-generation ADM needs across most user archetypes. This is primarily due to two core realities regarding them:

1. The characteristics of each archetype are moving targets. While the core requirements rarely change, the relative importance of different requirements can vary based on business and/or technological environment changes.

2. Most enterprises, especially larger firms, tend to include multiple archetypes. As the requirements of each archetype evolve based on business and technological changes, so too does the presence and value of each of them within the enterprise. Therefore, enterprises have an ongoing series of choices when it comes to next-generation ADM service providers. They will need to strike a balance between optimal business value and relative cost of the provider engagement, integration and management. Market changes, new business models, fluctuating economic factors and other variables will continually add to and subtract from user needs.

This report uses research and analysis from ISG's long-running work with enterprise clients and BPO services providers to identify and examine key changes in, approaches for and buyers of next-generation ADM services. ISG maps the user-side requirements to provider-side offerings and capabilities. Not every user enterprise has the same requirements. In this report, we use three buyer archetypes, detailed in the following sections, to identify and assess buy-side requirements for business value relative to provider-side offerings and capabilities. All revenue references are in U.S. dollars ($US) unless noted.

The assessment methodology has been developed and refined over several years of working with buyers to understand and articulate their services requirements and from working with services providers to understand how those buyer requirements influence the development of suitable solutions and go-to-market strategies.

This report assesses the capabilities of 27 providers. Some services providers that are typically included in this research are not covered here because they were unable to or declined to participate. They may be included in future versions of this report based on merit and on the services providers' willingness to provide current and rele¬vant materials. Readers should not make any inferences based on a services provider's absence from this report.

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How to Use This Report

This report is intended to provide advice founded on ISG's experienced-based, proprietary assessment of services providers' relative suitability to the needs of the typical next-generation ADM client. The advice is then applied across each of the three archetypes as profiled. No recommendation or endorsement is indicated, suggested or implied. Clients must decide to engage with any provider based not only on their specific, current workplace needs but also on other factors such as cost, culture and timing.

This report is organized as follows:

Client archetype descriptions. This section identifies and describes the most common user-side archetypes that ISG has identified in the ongoing research and analysis.

Assessments by archetype. These sections first detail each of the client archetypes along with the types of service offerings that each typically requires to realize the most business value. Each archetype section includes an assessment of the relevant capabilities and positioning of the services providers surveyed and interviewed. It covers the relative suitability of the providers for each archetype based on the information they have provided to ISG. These assessments are developed using the data, analysis and comparative methodology described in the methodology section.

Methodology. This section outlines and explains how ISG has developed and applied the data, analysis and insights for this report.

Please note: *This report presents services providers' known capabilities in the context of user enterprises' typical project needs (which are categorized as specific archetypes). This report is not meant to rank providers or to assert that there is one top provider with capabilities that can meet the requirements of all clients that identify themselves as a particular archetype.*
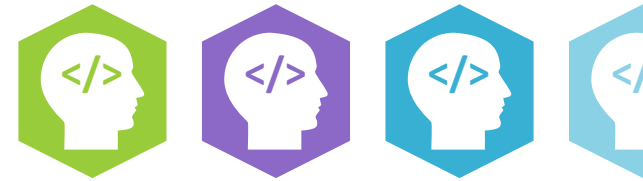
CLIENT ARCHETYPE DESCRIPTIONS

Client archetypes for this report (and in our ongoing advisory and consulting engagements) represent the various types of clients that ISG has observed and how they are classified based on their relative outsourcing maturity and objectives. Each client archetype encapsulates the typical characteristics of a specific type of buyer that seeks to outsource one or more processes or functions. The use of archetypes enables ISG to develop sets of characteristics and needs that can be applied uniformly and repeatedly across multiple environments, industries, provider types and other variables within one service line.

The archetypes are not meant to be comprehensive examinations of all potential or likely client situations and requirements. They are meant to provide a simple, relevant and repeatable set of user-side requirements against an assessment of a similarly simple, relevant set of provider capabilities. The archetypes in these reports are based on the most current marketplace knowledge of prevalent buy-side goals, resources, initiatives and requirements. Archetype characteristics are also developed (and refined over time) based on ISG's advisory and consulting work with enterprise clients and IT service providers as well as its global business, IT market research and advisory programs.

ENTERPRISE MODERNIZATION

Most clients want to overhaul their legacy systems to gain enterprise agility. The objective is to integrate various application touchpoints and silos, build cloud-native applications, implement advanced technologies, and ensure quicker time-to-market and an enhanced customer experience. They are seeking providers that have modernization and cloud experience, can operate in an agile and DevOps model, and are competent with the emerging technology stack.

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A2 OPERATIONAL EXCELLENCE

Clients aim to reduce cost and achieve efficacy in applications management. The scope of work includes leveraging automation, ticket resolution, incident elimination and preempting application failures. Their main objectives include the implementation of sophisticated maintenance philosophies such as AIOps, application upgrades, and reduction of discretionary application maintenance expenditure over time.

A3 PACKAGED SOFTWARE IMPLEMENTATIONS

Clients aim to either upgrade or move from one commercially off-the-shelf application/packaged technology ecosystem to another. This involves upgrading to the latest version of the current product suite or shifting to another product technology vendor. This also includes greenfield or brownfield implementations of one or more software categories such as enterprise resource planning (ERP) modules, customer relationship management (CRM), customer data platforms, big data and analytics, web content management, collaboration software suites and commerce websites.

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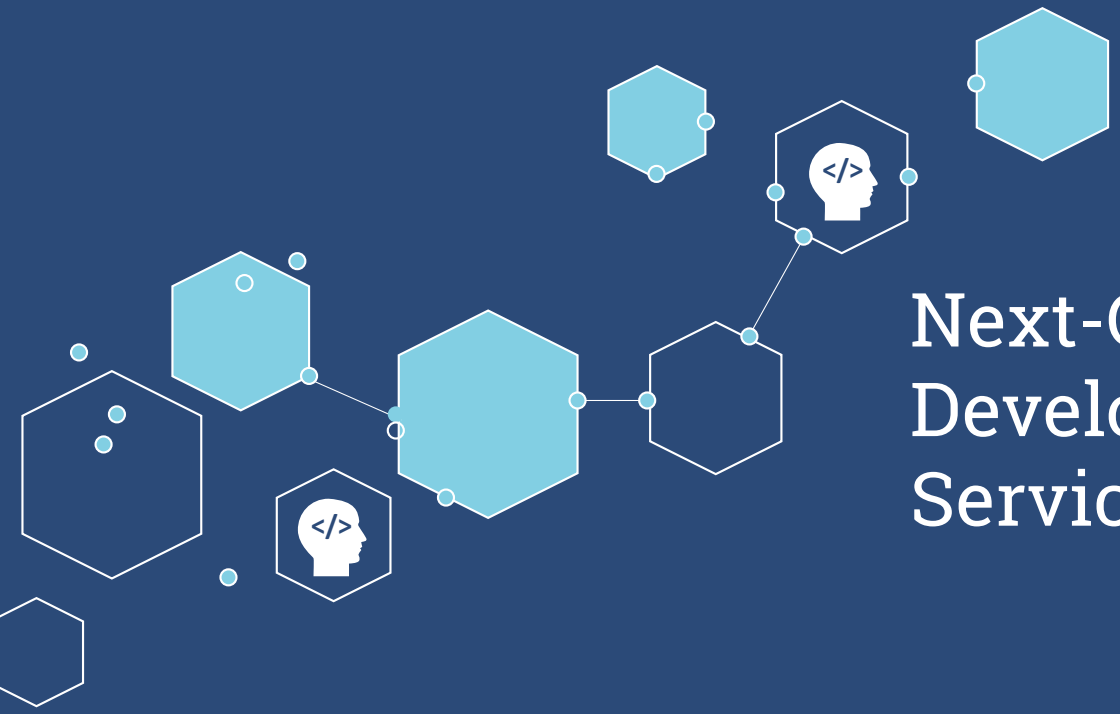
Next-Gen Application Development and Maintenance Services Archetypes

ENTERPRISE MODERNIZATION

The enterprise modernization archetype is either looking to overhaul the current legacy applications or move to the cloud or both. The aim is to attain business agility based on applications that can be quickly reprogramed, enhanced or scaled. The implementation of various agile methodologies, operating in the DevOps model and the development of a continuous delivery ethos are means to achieve these objectives. Current application modernization initiatives have become an integral part of digital transformation programs. Therefore, an improved user experience is also becoming an essential aspect of many core modernization deals.

Enterprise Modernization Client Objectives

- Modernizing the application core
- Reducing the change management cycle time
- Enhancing the digital experience
- Eliminating silos and integrating various application functions
- Faster time-to-market for applications

Fig 1

Enterprise Modernization Influence of Provider Capabilities

Modernization competency

Continuous everything tools expertise

Emerging technology capabilities

Agile strength

Size based on relative current importance in the archetype profile

Fig 2 Enterprise Modernization Leaders

● Score 4 out of 4   ◕ Score 3 out of 4   ◑ Score 2 out of 4   ◔ Score 1 out of 4

Among the 27 services providers included in this research, 11 that stand out and match the enterprise modernization archetype based on an assessment of their capabilities as described in the methodology section of the appendix. These 11, referred to as archetype leaders, and their relevant capabilities are presented in Figure 2 and are briefly examined in the following sections.

Note: The service providers listed are arranged in alphabetical order. No ranking is implied

A1	Modernization competency	Continuous Everything Toolset Expertise	Emerging Technology Strength	Agile Capabilities
Atos	◕	◕	◑	◕
Capgemini	◕	●	●	◕
Cognizant	●	◕	◕	◑
HCL	●	◕	◕	◕
Hexaware	●	◕	◕	◑
Infosys	◕	◕	◕	◕
LTI	◕	●	◕	◕
Mindtree	◕	●	◕	◑
Softtek	◕	◕	◑	◑
Tech Mahindra	◑	●	◕	◕
Wipro	●	◕	◕	◕

Hexaware

Hexaware has shared several detailed client examples on application modernization. These cover modernization of an ecommerce portal for a leading airline in North America, cloud migration of legacy .NET applications to the Azure cloud for a leading advisory firm, enhancing the digital experience while designing and building a store user experience for a leading U.S. convenience store chain, providing microservices while building a configurable banking product for calculating credit ratings on facilities and commercial loans for a global rating agency.

Hexaware has wide coverage of the DevOps lifecycle commercial toolset. Its presence across prominent tools includes Jira (5,230 developers and 142 projects), GitHub (3,975 developers and 80 projects), Microsoft Team Foundation Server (1,265 developers and 50 projects), Eclipse (1,650 developers and 79 projects). The company also has an adequate number of quality assurance FTEs trained on leading automation testing tools such as Selenium (1,610), QTP (1,600), Maven (1,400), Junit (1,540), Cucumber (1,610) and Appium (1,1040).

Hexaware has capabilities (centers of excellence, toolsets, FTEs, implementations) across emerging technologies such as data science, design thinking, cloud-native architecture, low-code platforms, blockchain, narrow AI, cybersecurity and IoT.

Hexaware has 5,397 agile FTEs globally to carry out several client implementations across Scrum, Kanban, SAFe® and feature-driven development methodologies. Around 75 percent of all application development projects follow an agile delivery model.

OTHER NOTEWORTHY PLAYERS – ENTERPRISE MODERNIZATION ARCHETYPE

Some other providers scored high in or more areas that are important for the enterprise modernization archetype. However, they were not categorized as leaders for this archetype because they did not rate high in enough categories.

Noteworthy providers (services providers with a high score in one or more categories) for the enterprise modernization archetype are:

Fig 3   Other Noteworthy Players – Enterprise Modernization

Modernization competency	Continuous everything tools expertise	Emerging technology capabilities	Agile strength
Mphasis	Persistent Systems	Infinite	
Coforge		UST	
		Persistent Systems	
		Coforge	

A2 OPERATIONAL EXCELLENCE

Operational excellence is a virtue that most enterprises expect to achieve through long-term managed services contracts. Essentially, the expectation is to modernize while being managed. The scope of services involves managing the existing application portfolio, ticket resolution, incident elimination, preempting application failures, application upgrades and consolidation over time. The aim is to achieve a near zero-operations or no-operations state, wherein maximum efficiency can be achieved with minimal human intervention by largely relying on automation and AI.

Operational Excellence Client Objectives

- Client objectives for operational excellence:
- Reducing discretionary application expenditure
- Regular application upgrades
- Quick issue resolution
- Pre-empting operational challenges
- Reducing human intervention for running operations
- Efficiency gains through advanced automation

Fig 4

Operational Excellence Influence of Provider Capabilities

AIOps

Automation and analytics competency

Efficiency track record

Diversified application experience

Size based on relative current importance in the archetype profile

Among the 27 services providers included in this research, 11 stand out and match the operational excellence archetype based on an assessment of their capabilities as described in the methodology section of the appendix. These 11, referred to as archetype leaders, and their relevant capabilities are presented in Figure 5 and are briefly examined in the following sections.

Note: The service providers listed are arranged in alphabetical order. No ranking is implied.

Fig 5 — Operational Excellence Leaders

Legend: ● Score 4 out of 4   ◕ Score 3 out of 4   ◑ Score 2 out of 4   ◔ Score 1 out of 4

A2	Artificial Intelligence for Operations (AIOps)	Automation & Analytics competency	Efficiencies track record	S/W Technology Experience
Atos	◑	◕	◕	●
Capgemini	●	●	●	●
Coforge	◑	◕	◕	◕
Cognizant	◕	◕	◕	◕
HCL	◕	◕	◕	◑
Hexaware	◕	◕	◑	◕
Infosys	●	●	◕	●
LTI	◕	◕	◕	●
Mindtree	◕	◕	◕	◕
Tech Mahindra	◕	◑	◕	◕
Wipro	◕	◑	◕	●

Hexaware

Hexaware's AIOps methodology comprises three phases starting with a client's IT operations monitoring (ITOM) maturity rated on a five-point scale ranging from reactive operations to autonomous operations. This is followed by establishing a functional AIOps platform to support the current ITOM. The final stage is to transparently monitor, track and improve the key performance via the platform. The company has strong presence across the commercial AIOps tooling with about 215 resources trained on Elasticsearch, 160 on AppDynamics, 200 on Atlassian, 110 on New Relic® One and 285 on ServiceNow IT operations management.

Hexaware has developed multiple in-house tools such as Tensai, an end-to-end automation platform for automation. The platform is also used for integrated governance and metrics reporting with predictive analytics capabilities. Hexaware has more than 90 implementations of the Tensai platform and 13 implementations of HexaView across its AMS projects.

Hexaware has achieved around 27 percent of task automation and 18 percent of incident elimination across its managed application services projects. It has elaborative operational excellence case studies across the hospitality, healthcare, fitness, financial services, airline, shipping and manufacturing industries.

The company has a wide presence of FTEs across application areas. These include 1,190 resources aligned to tier-1 ERP platforms such as SAP and Oracle, 550 to business intelligence and big data and analytics tools, 820 to CRM systems, 330 to enterprise application integration systems and about 200 to SCM.

OTHER NOTEWORTHY PLAYERS – OPERATIONAL EXCELLENCE ARCHETYPE

Some other providers scored high in or more areas that are important for the operational excellence archetype. However, they were not categorized as leaders for this archetype because they did not rate high in enough categories.

Noteworthy providers (services providers with a high score in one or more categories) for the operational excellence archetype are:

Fig 6 Other Noteworthy Players – Operational Excellence

AI for Operations	Automation and analytics competency	Efficiency track record	Software Technology Experience
Infinite		Infinite	
DXC		Persistent Systems	
		Birlasoft	

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A3 PACKAGED SOFTWARE IMPLEMENTATIONS

The requirement of this archetype is the implementation of one or more of the following – implementation of new commercial-off-the-shelf products (such as implementation of Salesforce CRM modules), upgrading from one application version to another (such as movement to SAP S/4HANA), or re-platforming from one eco-system to another (such as Magento to Salesforce Commerce Cloud). These clients are looking for providers that have a strong presence and experience across application areas and packaged technology players as well as a robust partner ecosystem.
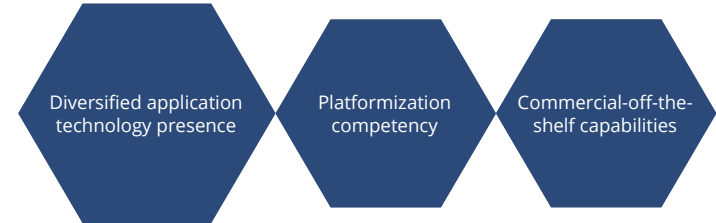
A3 Packaged Software Implementations Client Objectives

- Platformization of services

- Leveraging tools and accelerators

- Building own microservices enabled cloud-based platform

- Upgrading to latest version of current commercial-off-the-shelf technology

- Cross-technology movement

Fig 7

Packaged Software Implementations Influence of Provider Capabilities

Diversified application technology presence

Platformization competency

Commercial-off-the-shelf capabilities

Size based on relative current importance in the archetype profile

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Fig 8 Packaged Software Implementations Leaders

● Score 4 out of 4   ◕ Score 3 out of 4   ◑ Score 2 out of 4   ◔ Score 1 out of 4

Among the 27 services providers included in this research, 10 that stand out and match the packaged software implementations archetype based on an assessment of their capabilities as described in the methodology section of the Appendix. These 10, referred to as archetype leaders, and their relevant capabilities are presented in Figure 8 and are briefly examined in the following sections.

Note: The service providers listed are arranged in alphabetical order. No ranking is implied.

A3	Diversified application technology presence	Platformization competency	Commercial-off-the-shelf capabilities
Atos	◕	◕	◕
Capgemini	●	◕	●
Cognizant	◑	●	◕
HCL	◑	◕	◕
Hexaware	◕	◕	◔
Infosys	●	●	●
LTI	●	◕	◕
Tech Mahindra	●	◑	◕
UST	◕	◑	●
Wipro	●	●	◕

Hexaware

Hexaware has adequate experience across various application areas. It has more than 1,380 developers aligned to tier-1 ERP (Oracle, SAP) platforms with 66 implementations, 180 for business process management tools with 40 implementations, 1,105 for big data and analytics with 97 implementations, 630 for CRM with 55 implementations, 355 for enterprise application integrations with 36 implementations and 320 developers for customer data platforms with 29 implementations.

Hexaware has multiple elaborative case studies on cloud migration. Some of them include cloud –re-platforming. leading to a 50 percent reduction in the total cost of ownership for a leading U.S. secondary mortgage firm; application re-platforming including migration of integration application from Biztalk to Boomi for a shipping services firm; leveraging DevOps, API and microservices to re-platform the airport customer service system of a leading airline in North America.

Hexaware has a strong presence with packaged technology vendors, executing several implementations across SAP, Oracle, Workday and Salesforce products. It has close to 50 global partners ranging from known cloud and commercial-off-the-shelf product vendors to industry solution experts and niche technology companies.

OTHER NOTEWORTHY PLAYERS – PACKAGED SOFTWARE IMPLEMENTATIONS ARCHETYPE

Some other providers scored high in or more areas that are important for the packaged software implementations archetype. However, they were not categorized as leaders for this archetype because they did not rate high in enough categories.

Noteworthy providers (services providers with a high score in one or more categories) for packaged software implementations archetype are:

Fig 9 Other Noteworthy Players – Packaged Software Implementations

Diversified application technology presence	Platformization competency	Commercial-off-the-shelf capabilities
Cybage	Mindtree	Coforge
Infinite	Mphasis	Persistent Systems
Persistent Systems		
Birlasoft		
Coforge		

SERVICE PROVIDERS ACROSS ARCHETYPES

	Enterprise Modernization	Operational Excellence	Packaged SW Implementations
Atos	✶	✶	✶
Birlasoft		✓	✓
Capgemini	✶	✶	✶
Coforge	✓✓	✶	✓✓
Cognizant	✶	✶	✶
Cybage			✓
DXC		✓	
HCL	✶	✶	✶
Hexaware	✶	✶	✶
Infinite	✓	✓✓	✓

✶   = Leaders

✓   = Noteworthy Providers *(number of check marks indicate the degree of alignment with the capability requirements of each client archetype)*

☐   = *Not In (the Service Provider wasn't considered a leader in any of the capability requirements for this archetype)*

NOTE: All Service Providers evaluated for this report have the abilities to service all four archetypes, only those with the best fit to the capability requirements were identified as Leaders or Noteworthy Providers

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SERVICE PROVIDERS ACROSS ARCHETYPES

	Enterprise Modernization	Operational Excellence	Packaged SW Implementations
Infosys	✱	✱	✱
LTI	✱	✱	✱
Mindtree	✱	✱	✓
Mphasis	✓		✓
Persistent Systems	✓✓	✓	✓✓
Softtek	✱		
Tech Mahindra	✱	✱	✱
UST	✓		✱
Wipro	✱	✱	✱

✱ = Leaders

✓ = Noteworthy Providers *(number of check marks indicate the degree of alignment with the capability requirements of each client archetype)*

☐ = *Not In (the Service Provider wasn't considered a leader in any of the capability requirements for this archetype)*

NOTE: All Service Providers evaluated for this report have the abilities to service all four archetypes, only those with the best fit to the capability requirements were identified as Leaders or Noteworthy Providers

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GUIDANCE

The line between application outsourcing, product engineering, digital transformation and cloud transformation is blurring. There is a significant overlap of scope and skills in all four cases. Next-generation ADM services are likely to witness a shift in integrated operations to unified end-to-end IT operations, merging infrastructure and application teams. The aim will be to bring the key stakeholders together to create a technology-enabled company versus a company with a technology department.
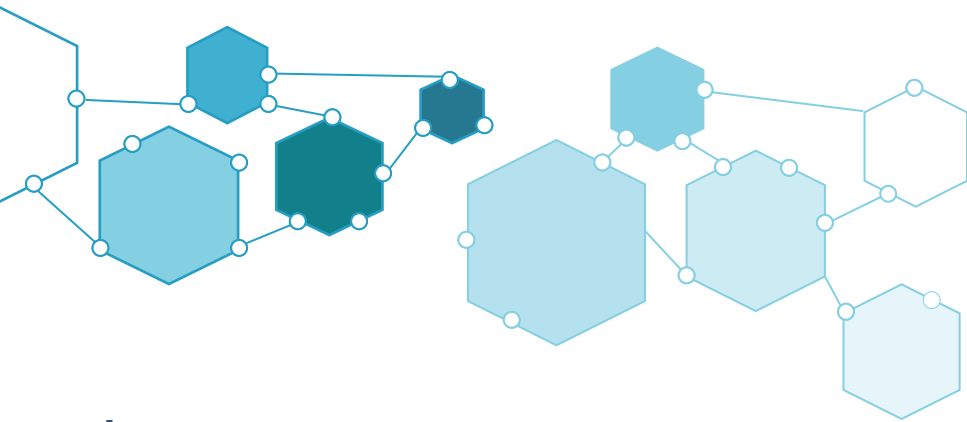
Enterprise Leadership Actions

Enterprises should focus their energy, time, and money on the following:

- **Breaking the silos:** One of the biggest impediments faced by large multinational enterprises is that there is little to no similarity in the platforms they operate on, the vendor they partner with and the processes followed. This considerably limits the benefits of any application modernization or improvement exercise. The application should be the first step towards any core modernization exercise.

- **Unify various departments and functions:** If an application outsourcing engagement is being linked to and is going to have a direct impact on the business, the decision should not be driven by one part of the organization. It is pertinent to have all stakeholders equally involved and accountable including CIO, CMO, CDO and other CXO-1 functions for driving the effort. Projects often fail when the right people are not on board.

- **DevOps remaining a challenge as it goes beyond technology:** The study found that not even 50 percent of projects that work in an agile model can work in a DevOps setup. Although there has been a flurry of new tools that have made DevOps incredibly powerful, not many enterprises can implement it. Once enterprises see this as a cultural issue, they should adopt the right education programs that can later lead to higher adoption.

- **Adopting a piecemeal approach for migration to the cloud:** Until the application is developed in a certain way that makes it modular, truly de-coupled, granular and with quality coding practices, an organization will not be able to reap the true benefits of cloud, namely scalability, quick provisioning and reduced maintenance cost. Therefore, the first step should adopt a modernization exercise including refactoring and re-platforming of applications, making them cloud-native and then moving the workloads.

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Provider Leadership Actions

Providers of next-gen ADM providers continuously improving their capabilities in solving long-standing industry challenges. They should focus on the following for the next two years:

- **Building cloud expertise.** Cloud is now baked into all application discussions. Providers should aim to develop holistic cloud capabilities covering IaaS, PaaS and SaaS. This space is widening each day with new players bringing their own set of competencies. Providers need to continue focusing on hyperscalers and, at the same time, strike partnerships with innovative players to build solutions over these platforms. They should also be on the lookout for M&A opportunities.

- **AIOps space yet to be fully explored:** Most of the providers evaluated in this study lack adequate resources for current AIOps tooling. This provides an opportunity for them to build next-generation capabilities to win new deals in the managed services space.

- **Greater adoption of business-linked commercial model:** Most providers offer non-traditional business-oriented pricing such as gain share, business outcome-based or revenue sharing. However, these are confined to a few strategic accounts. These models are expected to become mainstream over the next five years.

- **Focus on getting more T-, pi- and comb-shaped employees on board:** Cross-trained employees are one of the precious assets for providers. The focus is on hiring three specific kinds of employees. These include T-shaped – those who have broad experience in different disciplines coupled with deep domain expertise; pi-shaped – good to excellent experience on two related skills; and comb-shaped – although a rare find, someone with expertise in multiple areas and willing to collaborate with multiple functions. As these skills can be difficult to find, having a strong training program in place is paramount. In addition, as remote working has gone mainstream, it is important to look for talent in locations not considered before. Talent retention is also expected to become a challenge. Therefore, providers should look to offer benefits beyond just monetary such as permanent work from home options, a more flexible leave policy and better healthcare options.
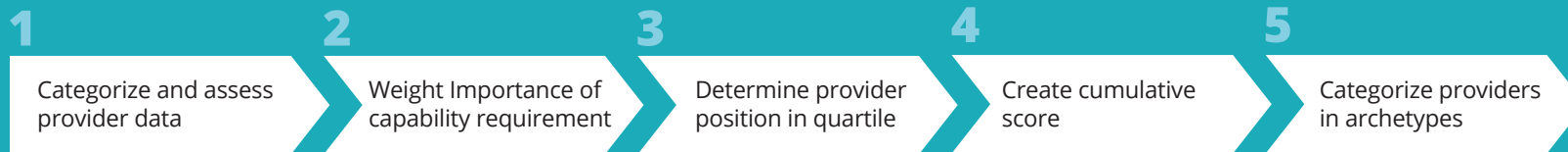
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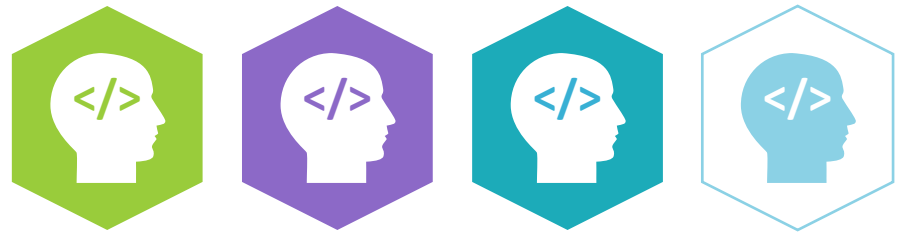
APPENDIX

Methodology

As previously noted, this report uses three archetypical sets of buy-side client requirements to assess the relative suitability of next-gen ADM services providers. Data regarding the providers' capabilities and positioning was provided to ISG via briefings, ISG advisor interviews and surveys of service providers, including client references if appropriate.

Next-gen ADM services providers (SPs) shared their data across different next-gen ADM service dimensions through the research initiatives noted above. These dimensions cover their technological competency, preferred engagement models, the scope of work performed, service capability, functional expertise and industry and regional presence.

Report Methodology

1 Categorize and assess provider data

2 Weight Importance of capability requirement

3 Determine provider position in quartile

4 Create cumulative score

5 Categorize providers in archetypes

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Methodology Details

1 The data provided by the services providers were categorized and assessed according to next-gen ADM services requirements described for each of the three client archetypes. In cases in which provider descriptions and data were not worded as precisely as our archetype requirements, our next-gen ADM services analysts relied on their expertise and experience to classify provider capabilities.

2 Each archetype capability requirement was weighted based on its relative importance to that archetype's typical requirements. Weightings for each archetype's requirements add up to a total of 100 percent. Specific weightings are not disclosed in this report. The relative importance of each capability requirement is depicted in illustrations at the beginning of each archetype section using differently sized "hexagon" icons.

3 Once the relative ability of each services provider was assessed for each of the archetype requirements, each provider was then positioned in a relevant quartile (e.g., top 25 percent, second 25 percent and so on). The top quartile was awarded a numerical "capability score" of 4/4; the second quartile earned a score of 3/4, the third quartile earned a score of 2/4, and the fourth quartile earned a score of 1/4. Those with no capabilities to meet the archetype requirements were not included in the assessment.

4 Provider capability scores from Step 3 were then multiplied by the weightings developed for each client archetype requirement in Step 2. The results for each provider were then totaled to develop a cumulative score for each service provider. These cumulative scores are not disclosed in this report.

5 The cumulative scores were then used to identify the services providers most well suited for each archetype's requirements. These providers are listed alphabetically and briefly profiled in each archetype section. Where relevant, additional services providers with noteworthy capabilities are also mentioned (for example, providers that may have scored well on a specific requirement but not across all the requirements for that archetype).

Please note: This report simply presents services providers' known capabilities in the context of user enterprises' typical project needs. This report is not meant to rank providers or to assert that there is one top provider with abilities that meet the requirements of all clients that identify themselves with a particular archetype.

Fig 10 Provider Capability Scores as Harvey Balls

Score	Harvey Ball representation
Score 4 out of 4	●
Score 3 out of 4	◕
Score 2 out of 4	◑
Score 1 out of 4	◔

The cumulative score for each of the selected services providers against each archetype requirement is represented using Harvey Balls. For example: if a provider is assessed with a score of 4 out of 4, then a full Harvey Ball is used to represent their capability against that requirement. Similarly, if a provider is assessed a score of 1 out of 4, then a one-quarter Harvey Ball is used, as shown in below.

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Additional Relevant Next-Gen Application Development and Maintenance Services

The capabilities of 27 providers were assessed in this report. Some services providers that are typically included in our work are not included in this report. Some of the companies that were not included were not able to participate and others declined. Providers that do not offer a full portfolio of next-gen ADM services have not been included in the study. They may be included in future versions of this report, based on merit and on the services providers' willingness to provide current and relevant materials. Readers should not make any inferences about a services provider's absence from this report.

Other Relevant Service Providers	Headquarters Country
Accenture	Ireland
CGI	Canada
Deloitte	United Kingdom
EPAM	United States
Fujitsu	Japan
IBM	United States
Infogain	United States
Stefanini	Brazil
TCS	India
Thoughtworks	United States
T-Systems	Germany
Virtusa	United States
Yash Technologies	United States

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Next-Gen Application Development and Maintenance Services
September 2021

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