

Vendor Services Review: Infosys

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Summary

In brief

Infosys is one of India's largest global technology services and consulting companies. It serves more than 20 industries in more than 50 countries. It has begun the process of transforming from a traditional IT service supplier and outsourcer into an innovative platform provider in line with the next wave of technical advancements. It is building up a series of platforms encompassing service automation, data analytics, and artificial intelligence (AI). Acquisitions and investments are playing an increasingly important role as Infosys seeks to bring in new platforms to strengthen its intellectual property differentiation. It will also provide the accompanying services for platform design, implementation, and maintenance.

This report is one in a series of vendor service reviews.

Ovum view

Infosys is evolving from its traditional business model, recognizing the need to embrace automation and AI, using platforms along with services to compete with disruptive entrants, IT vendors, and IT services peers that are also aggressively transforming themselves. This strategy is intended to increase Infosys's growth opportunities in a market where margins are declining due to cost pressures and increased competition.

The foundation of this strategy is the AiKiDo services framework, which combines people, knowledge, and software in engagements, utilizing "design thinking" throughout. Infosys has aligned its consulting organization to drive design services and knowledge-based IT. Service lines have been renewed with robotics, automation, analytics, and intelligent systems. Employees are being trained in design thinking and machine learning.

Alongside AiKiDo, the dual approach of "Renew and New" has become central to Infosys's thinking. "Renew" refers to renewal of core traditional business, systems, landscapes, and processes in order to drive more efficiency. "New" refers to new business areas, new ways of reaching customers, entering new markets, delivering new business models, and new business structures.

Ovum sees a rising demand for IT services and outsourcing by CSPs across a wide range of IT and infrastructure-related areas. However, a growing preference for fewer vendors in the mix means vendors can be expected and encouraged to work in areas outside of their traditional domain. This is a highly competitive space.

Infosys is well positioned to lead CSPs through their digital transformations. It has a good combination of project management expertise, business transformation experience, and global delivery capabilities. Infosys needs to show CSPs how it can bring big data, automation, and AI into their organizations in a relevant, meaningful, and cost-effective fashion.

SWOT analysis

Strengths

- Infosys is focusing on business process innovation, automation, AI, and the platforms to support these, as opposed to a pure IT services play delivered in the form of cost-efficient human resources. It views AI as the main driver of business process innovation. AI will be underpinned by platforms, such as Infosys Mana, that use machine learning and enable automation to improve both the quality of service (QoS) and quality of experience (QoE) for all enterprises, including CSPs.
- Infosys has begun to monetize key initiatives such as Zero Distance, a program to drive grassroots innovation in order to better align its offerings to customer needs.
- Infosys has set up a \$500m innovation fund to tap into a wide range of capabilities, technologies, and innovative companies such as Panaya, Kallidus/Skava, and Noah Consulting.
- Infosys is investing in employees through training programs, such as the toolkits required to deliver the AiKiDo services framework. Over 100,000 are trained in design thinking, and machine learning has become a standard course at the entry level.

Weaknesses

- Infosys is undergoing its own internal transformation, which involves far-reaching organizational and culture changes. Consequently, Infosys has to ensure that internal change does not detract from its ability to deliver, or negatively influence public perceptions regarding credentials, competence, and capability. Success in its own transformation will provide powerful proof-points of the company's ability to do the same for others.
- Infosys has to change perceptions that it is a low-cost outsourcing option for old legacy systems, rather than an innovative partner for digital transformation, new technologies, and new ways of working.
- Infosys has relied heavily on using resources in India for maximum cost-efficiency and to achieve healthy margins. Maintaining those margins in the face of increased competition in India is proving tough, not just for Infosys. Similarly, the onshoring trend is leading to the need to relocate Indian resources or hire locally, both of which are more expensive options.

Opportunities

- Infosys sees opportunities in platforms such as Infosys Mana, Skava, and IIP, centered on learning, innovation, and automation. Rather than selling IT services alone, Infosys is placing a greater emphasis on platforms that offer emerging technical capabilities.
- With its large existing customer base, Infosys is well placed in the communications vertical to seek out opportunities for its newer services based on AI, automation, and analytics. Digital transformation requires a breadth of capabilities that combine emerging technologies, project management, managed services, consulting, and SI capabilities. Vendors that can do more for CSPs are likely to be considered attractive because CSPs are reluctant to have too many vendors.

- Infosys's design-led approach and "Design Thinking Workshops" are intended to help clients imagine, prepare, and plan for the future. In addition to giving rise to future work streams, these workshops present opportunities for cross-pollination of ideas where one industry is ahead of another or one CSP type is forging ahead of the pack.

Threats

- Infosys's traditional business model – systems integration and outsourcing, delivered by a well-educated and cost-efficient labor force – is no longer a differentiator. Many of Infosys's competitors in the telecoms vertical also now deliver IT services to telcos using employees based in India. Infosys must resist the urge to react by offering more service for less money, and the AiKiDo services framework should be used to support the value proposition.
- Infosys is facing multiple challengers, especially in the converging CSP space. Software vendors are offering more services closer to the network than ever before and network vendors are offering more IT services. Traditional, similar rivals are attempting to beat Infosys on price in the short term and make similar moves up the value chain in the longer term. New disruptive players can start up with ease and offer anything and everything as a service (XaaS). Each present their own competitive challenge.
- Onshoring is increasing in certain areas, for example, European CSPs such as BT and EE announced that they were bringing call center functions in-house in response to customer pressure.

Company background

Organization

Infosys is headquartered in Bengaluru, the capital of India's southern Karnataka state and high-tech industry center. With a global footprint of 85 offices and 114 nearshore and offshore development centers, it employs approximately 199,829 people. Infosys provides business IT services to more than 20 industries in more than 50 countries. The organization serves the following five industry verticals:

- financial services and insurance
- manufacturing and high-tech
- retail, CPG (consumer packaged goods), and logistics
- energy, utilities, communications, and services
- life sciences and healthcare.

Infosys introduced an additional layer of strategic business units (SBUs) with its own P&L accountability in mid-2016, dividing each of the existing verticals into three or four SBUs.

Table 1: Infosys's larger clients (all verticals)

Annual revenues	Number of clients (quarter end, September 30, 2016)	Number of clients (quarter end, September 30, 2015)
\$1m+	577	542
\$5m+	277	258
\$10m+	186	169
\$25m+	89	85
\$50m+	54	50
\$75m+	30	31
\$100m+	18	14
\$200m+	6	6
\$300m+	1	1

Source: Infosys

Financials

Infosys recorded income from software services and products of 62,441 crore rupees, or \$9.5bn, for the 2015–16 financial year and a net profit of 13,491 crore rupees, or \$2bn. The growth of IT services, which Infosys has traditionally delivered, cannot be relied on to continue. Vishal Sikka, CEO of Infosys, lowered revenue guidance for the full year when providing Q1 and Q2 2016–17 results. Expected revenue growth for the year was lowered to 10.5–12.0%, then to 8.0–9.0%, from the 11.5–13.5% the company provided in April 2016.

International customers account for 97.4% of Infosys's revenues; only 2.6% of revenues come from within India.

Financial services and insurance accounts for approximately a third of overall earnings. Finacle, Infosys's universal banking solution suite, serves more than 839 million bank customers across 92 countries. The manufacturing vertical accounts for almost a quarter of revenues; the third major vertical is energy, utilities, communications, and services, accounting for almost a fifth of revenues.

Within Infosys, "communications" comprises both the traditional telecom providers and the emerging breed of disruptors and is overall viewed as a growth engine. Infosys views the communications vertical, as a whole, to be ripe for innovation, automation, and the application of AI.

Infosys's AiKiDo services framework

As an organization, Infosys is transforming to meet and ride the next wave of digital disruption. AiKiDo is a services framework that combines people, knowledge, and software in engagements, utilizing design thinking throughout. AiKiDo means combining "energy and knowledge along our path." Infosys has aligned its consulting organization to drive design services and knowledge-based IT. Service lines

have been renewed with robotics, automation, analytics, and intelligent systems. Employees are being trained in design thinking.

Ai - Intelligent Platforms

The "Ai" in "AiKiDo" represents intelligent platforms such as the Infosys Information Platform (IIP), Infosys Automation Platform (IAP), Infosys Mana, the Edge suite of products, and recently acquired Skava and Panaya.

Infosys is placing greater emphasis on customizable cloud-based platform solutions. At the heart of the new Infosys policy is a drive to apply automation and analytics to both existing BPO activities and new business areas. The increased automation is intended to support a more industrialized approach to software development that is less software-centric and more focused on business process innovation. Infosys is seeking to tap into future developments around business analytics and robotic process automation (RPA).

Infosys's areas of focus are well chosen as they are all key priority areas for CSPs and address real business needs. A recent Ovum survey of telecom CIOs showed the top three business challenges to be the adoption of cloud delivery models, applying big data analytics to business processes, and transitioning to a digital operating model.

In March 2015, Infosys acquired Panaya, which has automation technology for large-scale enterprise software management, capturing information and knowledge of core enterprise assets in order to automate modernization.

Ki - Knowledge-based IT

"Ki" represents knowledge-based IT – a systematic way to manage, analyze, and modernize legacy systems using automation and machine learning. Infosys's analytics and knowledge platform can be used to automate the assurance process and order fallouts.

Infosys deployed AssistEdge in a large Asian CSP by learning, transforming, and automating business processes to systematically reduce human intervention and the number of errors.

At a large European CSP, Infosys developed big data-based analytical models using the Infosys Information Platform to predict network faults before they occurred. Predictive models were applied, processing 16.5 million records in 5 seconds to predict and proactively fix imminent network failure points over the coming week.

Do - Design Services

"Do" represents Design Services. Infosys partnered with the Hasso Plattner Institute of Design at Stanford, commonly known as d.school, to create its "Design Thinking" (dT) approach. This education program aims to enable effective problem-finding and instill creative confidence in more than 90,000 Infosys employees. The plan is to bring a 360-degree, cross-industry view to guide and support client direction and strategy. Joint design-thinking workshops with the CXO teams at various CSP clients help CSPs identify the big problems, formulate the bigger plans, and figure out the next steps in their digital transformation journey.

Infosys IT services for communications service providers

While much of Infosys's core service offering is as relevant and applicable to CSPs as other businesses, the specifics for CSPs reflect the environment in which service providers are currently

operating. Network upgrades to 5G and new optimization technologies like SDN (software-defined networking) and NFV (network functions virtualization) promise unprecedented efficiencies across the network. They also present challenges in the transition from physical equipment that has many physical touchpoints to virtualized functions and software-defined layers. Legacy systems are presenting many costly challenges, and decisions need to be made about maintenance, alteration, streamlining, or replacement.

Infosys's services for CSPs cover all aspects of their business, from the core of the network to customer experience and across the business and the CSP's operational support systems. The Infosys telecoms practice has more than 15,000 consulting and solution delivery staff members in its workforce.

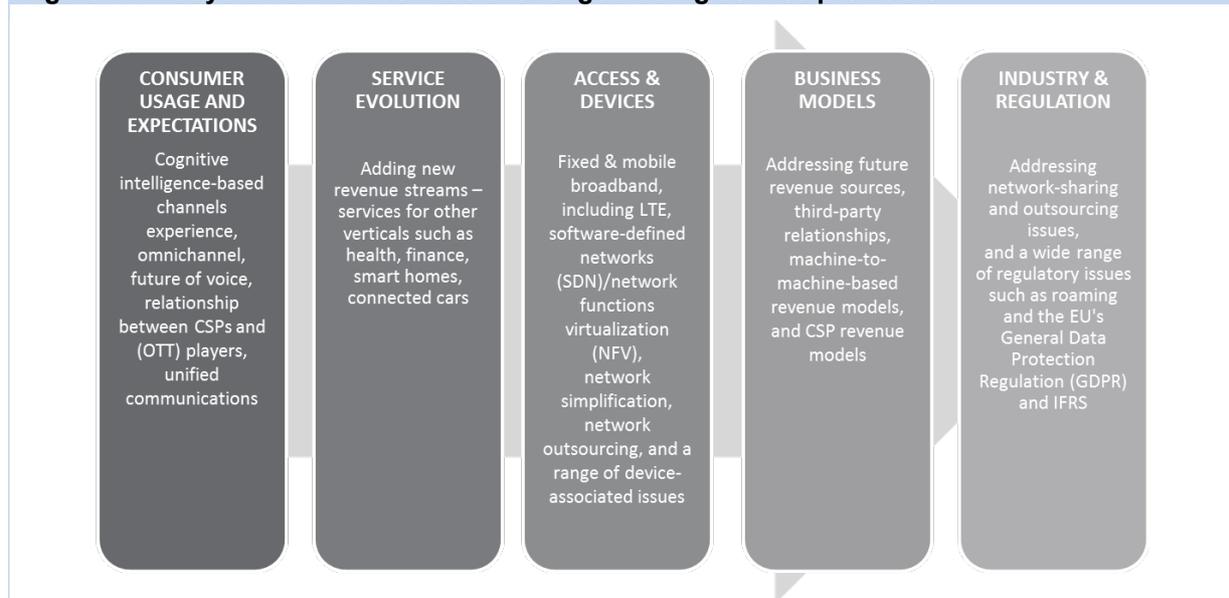
Infosys offers:

- communications domain consulting
- telecommunications package solutions
- end-to-end architectural skills development
- Value Realization Model (VRM), a proprietary model highlighting business benefits, making them visible to clients
- solutions with a mixture of component parts, such as Infosys Care, iFutureTV, Infosys Sales Effectiveness Centre of Excellence (ISEC), and Field Force Optimization Suite, accelerating time-to-market and enabling ready-to-launch applications
- programs for modernizing business support systems (BSS) and operational support systems (OSS) capabilities.

Infosys installs, maintains, and/or manages products and platforms on behalf of service providers. Many of these products and platforms were recently acquired and are built using open source technologies:

- Infosys Information Platform (IIP) – an open source data analytics platform
- Infosys Automation Platform (IAP) – a platform that continuously learns routing logic, resolution processes, and diagnostic logic to build a knowledge base that grows and adapts to changes in the underlying systems
- Skava – a platform designed for rapid deployment of mobile websites and omnichannel sales
- Mana – a data science layer that runs across other platforms and uses machine learning to glean actionable insight, automating repetitive, mechanizable tasks
- Edge products – cloud-based enterprise software applications, e.g. AssistEdge for customer service
- Panaya – the Panaya Cloud PCQ SaaS Platform for intelligent code correction and effort-reduction collaborative testing, ensuring best practices are identified and employed.

Infosys groups the business challenges CSPs face into five main areas: changing customer experience in a hyper-connected world, services evolution, network and access, business models evolution, and regulatory changes. These are depicted below in Figure 1.

Figure 1: Infosys's view of business challenges facing service providers

Source: Infosys and Ovum

Positioning in services

Current positioning

Infosys's current and proposed services offerings for the telco market bring it into competition with other providers in terms of capabilities and regions being covered. In terms of expertise, competitors include:

- Systems integration and outsourcing providers with similar focus on helping telcos achieve improved efficiency through digital transformation, delivery of cloud services, and the virtualization of the telcos' network infrastructure. Examples include: Accenture, Atos, Capgemini, Cisco, HP, IBM, Nokia, TCS, Tech Mahindra, and Wipro.
- BSS vendors such as Amdocs, NEC-Netcracker, and Redknee.
- M2M service providers such as NTT and TCS.
- OEMs such as Ericsson, Huawei, NEC-Netcracker, and Nokia.

Business strategy

Infosys is adopting a "Renew and New" approach, seeking to apply this methodology to its internal processes. In this context, "new" means targeting new business areas, new ways of reaching customers, new ways of accessing markets, entering new markets, delivering new business models, and new business structures. Infosys believes that to achieve these goals, enterprises need to build new systems – systems where next-generation technologies are imperative. "Renew" refers to the need for a robust renewal of an organization's systems, because simply retrofitting or sprucing up existing systems is not sufficient to deliver cost-performance benefits to remain relevant.

Infosys's focus on innovation runs throughout all verticals. Its Zero Distance program is a grassroots movement and core mandate where employees use the "proximity to the client" scenario, technology

knowledge, and specific industry domain knowledge to create innovative solutions in all projects. Zero Distance (to client, code, and value) is now mainstream throughout the organization. Several clients have funded further productization of Zero Distance ideas or proofs of concept (POCs). Global hackathons, conducted quarterly at the organization level, and client-specific hackathons take select Zero Distance ideas to rapid POC, which are then taken forward to relevant clients for implementation and value realization. Yammer is deployed across the organization and more than 100,000 employees across sales and delivery collaborate to build upon each other's ideas.

Strategy for CSPs

In order to assist CSPs with their digital transformation journey and compete with disruptive players, Infosys needs to help CSPs establish stickiness and remain relevant, to leverage data insights, drive highly personalized engagement, and drive monetization. CSPs need to put new revenue-creation lines in place.

The strategy for CSP clients is common across all regions.

- **Unified narrative:** a narrative to capture the imagination of the transformation agenda in the digital era for the CSP.
- **Tip of the spear program:** jointly identify critical problems for clients to solve.
- **Campaigns program:** new offerings that are easy to prove and quick to deploy.
- **Solution and big-bet pitches:** demonstrating how capabilities, solutions, and big-bet investments address the various aspects of the transformation agenda.
- **Zero Distance program:** a grassroots initiative where every Infosys employee uses deep understanding of and proximity to the client scenario, technology knowledge, and industry domain knowledge to create innovative solutions in their designated projects.
- **Joint go-to-market program:** using like-minded partners and client relationships to build unique propositions in the market.
- **Large deals management:** creating, identifying, tracking, and applying the same next-generation services to large renewals and other deals in the market.

Media and entertainment

Infosys is providing TVE (TV everywhere) and OTT (over-the-top) media transformation services for global pay-TV players, broadcasters, studios, networks, online media, and quad-play telcos, and is engaging partners globally. Key services include: OTT solution consulting, product definition, AD&M, UI/UX, validation, innovation and omnichannel digital customer engagement for production, post production, orchestration, and distribution and application processes, along with all the customer's media systems and transformation.

Partnerships

Infosys has many partners in place to bring its solutions to market, spanning software, services, and equipment vendors.

Table 2: Infosys partners

Partner	Specialty
Adobe	Content management, social, analytics, campaign management, Primetime
Amazon Web Services	Enterprise cloud services, security, management, governance
Amdocs	Billing, OMS (Order Management System), CRM, trouble ticketing
Apigee	Platform operations, digital initiatives (mobility, API management, backend-as-a-service), third-party developers
BigSwitch	SDN/NFV
BMC	Assurance
CA	Service virtualization
Camunda	Order management, BPM/workflow
Click Software	Workforce management
CloudSense	Market/sales management
Comptel	Fulfillment
Converse	Mediation, provisioning
CSGi	Billing, revenue assurance, interconnect
Dorado	Fulfillment
Ericsson Conceptwave 14.2	CPQ, order management
Hitachi Data Systems	Media
HPE	Independent testing and validation services
IBM	Requirements management and testing
Informatica	ETL, information lifecycle management, B2B data exchange, cloud data integration, complex event processing
Intense	Bill presentation and formatting
jBilling	Billing and revenue assurance
Microsoft	Dynamics, CRM Online, Azure Private Cloud, machine learning, managed services, Office 365 transformation

Mirantis	Openstack
Netcracker	Orchestration, inventory management
Ooyala	OTT
Oracle	Telco stack
Pegasystems	BPM, case management, next best action, CRM, SFA system, joint go-to-market
Pentaho/HSDP (HDS)	Business analytics and BI
Redhat	OS, server, storage, integration, and SDN/NFV
Salesforce	Market/sales
Salesforce.com	Integration and implementation on Salesforce and Force.com
SAP	Media, ERP, CRM
Sigma	Order management, product catalogue
Software AG Webmethods suite 9.0	B2B partner integration
Splunk	Security and IT operational intelligence
Subex	Network analytics, revenue assurance, and fraud management
Suntec	Management
Tricentis	Model-based testing
Ubiquite	SDN/NFV

Source: Infosys

Research and development

A \$500m innovation fund has been established and Infosys's Centre for Emerging Technologies is the hub of research and development activities. CSPs participate in Infosys's customer experience centers and living labs with partners to develop specific solutions. Some key investments in the CSP domain by Infosys are in the areas of open source stacks, advertising solutions, design and digital experience, IoT asset efficiency, gamification, and home automation.

Acquisitions and investments have played an increasingly important strategic role as Infosys seeks to bring in platforms to strengthen its IP differentiation. Infosys invests approximately 9–10% of revenues in R&D activities. Infosys has acquired Panaya, a provider of automation technology for large-scale enterprise software management; Kallidus/Skava, a provider of digital experience solutions; and Noah Consulting, a provider of advanced information management consulting services. It has also invested

in Nova, ANSR Consulting, Whoop, CloudEndure, Waterline Data Science, and Trifacta. The Panaya purchase, the biggest of these recent acquisitions, particularly ties in with Infosys's process automation push and is not just intended to enhance Infosys's internal software capabilities but to also help expand its partnering ecosystem.

Table 3: Infosys's recent acquisitions and investments to support its platforms and services business

Company	Date	Details
Trifacta	April 2016	Undisclosed investment in Silicon Valley-based Trifacta, a data analytics and data preparation tooling vendor.
Waterline Data Science	January 2016	\$4m investment in Waterline Data Science, a US-based start-up offering data discovery and data governance software.
CloudEndure	December 2015	\$4m investment in CloudEndure, a start-up that provides cloud migration and cloud-based disaster recovery (DR) software.
Whoop	December 2015	\$3m investment in Whoop, a US-based, early-stage company offering a performance optimization system for professional sports teams.
Noah Consulting	November 2015	\$70m acquisition of Noah Consulting, a provider of advanced information management consulting services, including data governance capabilities.
ANSR Consulting	July 2015	\$1.4m investment in ANSR Consulting, an India-based provider of consulting, outsourcing, and implementation services to a global client base.
Kallidus/Skava	June 2015	\$120m acquisition of Kallidus (Skava), a provider of digital experience solutions, including mobile commerce and in-store shopping experiences.
Panaya	March 2015	\$200m acquisition of Panaya, an Israel-based provider of automation technology for large-scale enterprise software management.
Nova	February 2015	\$15m investment in Nova, a DreamWorks Animation spin-off joint-venture that develops image-generation technologies and collaboration tools.

Source: Infosys

Appendix

Methodology

This report is based on briefings with Infosys focusing specifically on offerings to communications service providers (CSPs) and strategic intent for this vertical moving forward. This was coupled with desk research of publicly available information and other pertinent Ovum analysis.

Further reading

A Design-Driven, Knowledge-Based Approach to CSP Digital and Business Transformation, IT0012-000175 (September 2016)

BSS Applications Managed Services for CSPs, IT0012-000154 (March 2016)

"Infosys gets serious about automation with Panaya acquisition," IT0019-003417 (February 2015)

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