

REPORT REPRINT

Infosys Mana uses AI to extract knowledge from processes and control business outcomes

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Earlier this year, the company launched its Mana knowledge-based artificial intelligence platform. It's beginning to gain traction among pioneering firms and merits analysis.

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Infosys launched Mana in April and reported several successful use cases. Among them, a firm with a large fleet of field engineers claimed that individual productivity improved by up to 50% using Mana's self-learning capabilities, and a global telecommunications firm reduced employee effort by up to 80% after automating its order validation processes and removing the need for corrective processes. Mana is now a core enabler of Infosys' AiKiDo service offerings that together are intended to capture knowledge of how people work, learn from their skilled efforts and pragmatically apply such knowledge as required during the execution of business processes.

Infosys is positioning Mana as a new means to continuously improve existing processes and reveal knowledge to help innovate new and more productive process designs. It may become a new weapon in enterprise IT arsenals to reinvigorate major productivity improvement programs such as Six Sigma, Lean and ISO total quality management (TQM) initiatives. At the very least, Mana may be able to act as an intelligence engine to drive continuous process improvement. From another perspective, Mana is another in a growing list of new approaches by global systems integrators to create new services value in the current cloud era that threatens to disintermediate some players in the systems integration industry.

THE 451 TAKE

Artificial intelligence (AI) is emerging once again on our IT vernacular. Decades ago, it was intended to capture the intelligence of knowledge workers and subject matter experts, codify their skills in so-called 'expert systems' that can execute repeatedly on demand. It didn't work quite so well: compute, storage and network resources were too slow and expensive. Moreover, knowledge changed too quickly, and codifying what remained valid required too much effort. But things are different now. Compute, storage and network resources (we call them clouds) are cheap and fast and getting more so all the time. The approach to AI has changed as well. Data volumes continue to grow exponentially, and humankind now converts data into knowledge at unprecedented rates, making it impossible to codify such expertise and intelligence in software. Our systems need to learn. Those that do also need to be put to some practical use. It seems that Infosys Mana is doing just that.

CONTEXT

Infosys is a publicly traded global consulting, technology and outsourcing services firm. It operates in more than 50 countries with 194,000+ employees and generates over \$9.5bn in revenue. It was founded in 1981 and is headquartered in Bengaluru, India.

In an earlier report on Mana we noted that it is composed of three integrated components, all of which are based on open source technology. They include the Infosys Information Platform, an open source data analytics platform that enables businesses to operationalize their data assets and uncover new opportunities for innovation and growth; the Infosys Automation Platform, which continuously learns routing logic, resolution processes and diagnosis logic to build a knowledge base that grows and adapts to changes in the underlying systems; and the Infosys Knowledge Platform, which captures knowledge of business processes in an ontology-based structure that evolves and refreshes knowledge as underlying systems change. Collectively, Mana consolidates, correlates and juxtaposes information to provide root-cause analysis, highlighting anomalies and prescribing actions.

STRATEGY

Infosys' Mana platform combines machine learning and enterprise knowledge management. Its goal is to help drive automation and innovation that can allow organizations to continuously improve execution, adaptability and consistency of business operations. It's also a new platform derived to deliver the strategic services Infosys developed in 2015.

In August 2015, Infosys announced a set of offerings crafted to enable enterprises to improve how they design systems, enable cross-platform interoperability, and exploit knowledge-based IT management and control – collectively called AiKiDo. Aikido is an East Asian martial art that unifies energy and forces. Infosys has taken the three Japanese words – Ai, meaning unify; Ki, meaning energy; and Do, meaning new way forward – to capture its transformational approach. It has three key aspects: first, to acknowledge enterprise customers' existing IT landscapes, and make an assessment as to how it can be converted (or renewed). Second, to enable means to acquire and deploy new technological innovation. And third, to help enterprises continuously navigate (rather than drift) into the future (in AiKiDo, this third element is usually described as 'changing culture to support learning and innovation').

The thinking that bore AiKiDo originated with Infosys' CEO, Vishal Sikka, who believes that "all organizations need to renew the core business while innovating into new businesses. A duality that needs to be powered by a common culture of learning, creativity and purpose."

Infosys' Mana platform is a core enabler of the AiKiDo strategy in that it uses AI techniques and technology to capture knowledge from the systems that underlie core business processes to aid in their renewal (aka continuous process improvement), and use such knowledge to improve the quality of new processes as required by the strategic initiatives of an enterprise (e.g., new product development, improving customers' journeys, creating new operational efficiencies, Six Sigma, Lean and TQM).

TECHNOLOGY

In our view, Mana is a predictive business outcomes analysis platform. It can help enterprises determine what is happening, and is likely to happen, during the execution of a business process. It does so by monitoring the underlying IT infrastructure and applications that compose distributed end-to-end business processes. Its core engine orchestrates a series of relevant open source algorithms selected to conduct the required analytics to track performance, execution and outcomes. It monitors key performance indicators (KPIs) and their thresholds alerting relevant stakeholders (or systems) when they are threatened. Its Knowledge Base captures historical data from which it can learn and prescribe remediation alternatives when variance or anomalies occur.

Mana applies machine learning and AI techniques to be forward looking. It helps assure that the business outcomes required of process execution and the IT infrastructure upon which they run are consistently realized and, if threatened, can be proactively acted upon to avoid undesirable consequences.

Infosys believes that when Mana is matched with AiKiDo, enterprises will be better able to lower the cost of maintenance for both physical and digital assets, capture the knowledge of people and the often fragmented and complex systems they use, simplify the continuous renovation of core business processes, and enable businesses to craft and deploy new user experiences that lever emerging technology.

In the coming quarters, Infosys will extend AiKiDo and adapt Mana to offer services and platforms that address Internet of Things (IoT) projects and the Application Programming Interface (API) management requirements of its clients.

COMPETITION

Potential direct rivals to Infosys Mana include efforts made by Capgemini that announced a global collaboration with AI firm Celaton to license and use its inSTREAM cognitive learning technology. CognitiveScale is a venture-backed service provider that adds intelligence into business processes and applications through a model it calls Cognitive Garages. Using its '10-10-10 method,' CognitiveScale claims to deploy a cognitive cloud in 10 seconds, build a live application in 10 hours, and customize it using its client's data in 10 days. IBM has been going full speed ahead to become an early leader in AI with its Watson cognitive computing investment. We wouldn't consider it to directly rival Mana per se; rather, we believe in more complex uses cases the two offerings could complement each other.

Systems integrators like Infosys are under pressure to adapt their service offerings and business models. Cloud service providers represent a growing threat. In an era where infrastructure and business applications can be provisioned in days, and in some case minutes, there is diminishing need for systems integrators to install, implement and integrate IT infrastructure and software on behalf of clients (note: Infor Global Solutions, Microsoft, and Oracle for example). In response, systems integrators are innovating ways to extract new business value from IT. For example, Accenture developed its own cloud management platform, the Accenture Cloud Platform (ACP), which helps companies to implement new cloud services, optimize resource usage and enable governance and multi-cloud management.

Accenture also recently announced a relationship with Google to develop offerings that improve the value of Google technologies within their client organizations. Wipro developed its Holmes AI platform that offers a set of cognitive computing services for the development of digital virtual agents, predictive systems, cognitive process automation, visual computing applications, knowledge virtualization, robotics and drones. And Sapiens Consulting launched DECISION, a decision management offering that enables business users to model, manage and execute automated decisions, faster, with reduced cost. These are among a few of the technologies that systems integrators have developed to help reposition their value to global enterprises in the twenty-first century. We believe many more will follow.

SWOT ANALYSIS

STRENGTHS

Infosys crafted its Mana and AiKiDo service offerings to help lower the cost of maintenance of physical and digital assets; and capture knowledge of an organization's workforce from distributed IT infrastructure to enable new means for the continuous improvement of core business processes.

WEAKNESSES

Systems that are too complex have difficulty succeeding in enterprises. Especially in the cloud era where IT provisioning has been cut to minutes from months, thus setting expectations among decision-makers that all IT innovation must be deployed with similar expediency. The rebirth of AI in enterprises must address these expectations. It seems that Infosys intends to do so.

OPPORTUNITIES

Every enterprise seeks new means to differentiate and use it to craft a competitive edge. The knowledge born of AI and how it can proactively affect business process execution and their outcomes is likely to attract great interest from larger enterprises across all industries.

THREATS

Implementing AI technology within IT infrastructure is not for the faint of heart. It requires a 'learning organization' culture and the managerial commitment to deploy such capabilities in a graduated and prescribed way that builds upon the applied knowledge capture afforded by Mana. Without such an approach and commitment, the probability of success for AI systems is diminished.