

The Future Systems of tomorrow

The world of enterprise IT is experiencing a seismic shift that is both technical and cultural, according to a new report on "Future Systems" from Accenture. Companies therefore need systems that are boundaryless, adaptable and radically human to thrive in a world of constant change and to be able to innovate at scale.

Many companies today are hindered by a patchwork of applications and talent trained for yesterday's technology. At the same time, they find themselves surrounded by a rapidly evolving competitive playing field shaped by technology including practically infinite computing power; a nonstop flow of data and countless new uses of artificial intelligence and internet of things (IoT) technologies.

Companies need to evolve

Noting that the current style of IT isn't suited to constant and accelerating change, the report states that companies need to purposely evolve to approaches that are more experimental, agile and resilient.

This requires totally new ways of thinking, working and innovating, with a workforce that adapts to the relentless pace of technology. Companies should no longer think of their applications, infrastructure and employees as discrete, standalone entities, but as interconnected, living systems.



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"Companies are facing an achievement gap when it comes to innovation. They are investing in it and succeeding in pockets, but struggle to achieve repeatable success across their enterprise," said Bhaskar Ghosh, group chief executive at Accenture Technology Services.

"Instead, organisations need boundaryless, adaptable, radically human systems that allow them to innovate at scale while unlocking value currently trapped by legacy systems and processes. The result is future-ready systems formed by combining applications, data and infrastructure, along with talent strategies based on human plus machine collaboration and supported by an extensive ecosystem."

The report identifies three fundamental characteristics of thriving future systems and the steps needed to achieve long-term success and transform the way we work and live:

Boundaryless

The conventional IT stack has reached its practical limit for fueling business innovation. Today's emerging systems are breaking down barriers - within the IT stack, between companies, and between humans and machines - creating new space for innovation to solve significant business, consumer, and societal problems. Some simple first steps include establishing cloud as an enterprise-wide foundation to eradicate boundaries and applying decoupling techniques to remove dependencies across the IT stack.

Adaptable

Adaptable systems minimise the friction that hinders a company's ability to scale new innovations with speed. Using data and machine intelligence, these systems learn, improve and adapt by themselves, helping businesses thrive in the face of dynamically changing requirements and environments. Humans too are a critical component, collaborating with machines to make reliable decisions and take confident action faster. Making this collaboration truly effective starts with flexible, living architectures.

Radically human

Technology interfaces are creating elegant and simple experiences that are centered around business and customer demands. Natural language processing, computer vision, voice recognition, smart hardware and visualisation tools are enabling systems to talk, listen, see and understand the way people do. To achieve this, companies should start by designing systems that adjust to people - and stop expecting people to adjust to systems.

As an example, Cathay Pacific Airways' rewards program, Asia Miles, is already moving toward boundaryless systems, using blockchain, microservices and cloud to eliminate friction in their customer loyalty program and create more direct connections with partners and program members.

With the help of Accenture, Asia Miles can now launch more sophisticated campaigns and offers, attracting more partner merchants and members to the program. Members can earn points with their day-to-day spending more quickly and easily, increasing customer retention.

The report names talent as the single most important investment companies can make to create thriving future systems. It requires reimagining talent strategies for the era of human-machine collaboration, continuous learning and new approaches to sourcing talent.

According to Alan Nöthnagel, associate director for Accenture's Intelligent Software Engineering Services practice in Africa, technologies like AI and automation are making systems adaptable to change, eliminating friction and augmenting human capabilities.



Alan Nöthnagel, associate director for Accenture's Intelligent Software Engineering Services

"Fast-moving companies can reimagine personalised experiences around humans' true needs. To stay ahead of rapid disruption, smart companies are turning to human-centric design to better connect with customers and find competitive advantage. They're recognising that data and technology are not, by themselves, the solution to every problem. Rather, that designing successful user experiences ultimately comes down to empathy—truly understanding the needs of the people using the system."

"In Africa, we are seeing the emergence of new system development initiatives that embody the principles of boundaryless, adaptable and radically human systems," said Karthik Venkataraman, Artificial Intelligence and Intelligent Automation lead for Accenture Technology in Africa.

"These systems – designed to evolve with emerging needs, behaviours and capabilities – are created by multi-disciplinary teams with expertise that spans applications, infrastructure, machine learning and business processes using agile practices. Accenture is working with African enterprises to shape their own journeys towards future systems and become effective, responsible users of these advanced technologies."

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