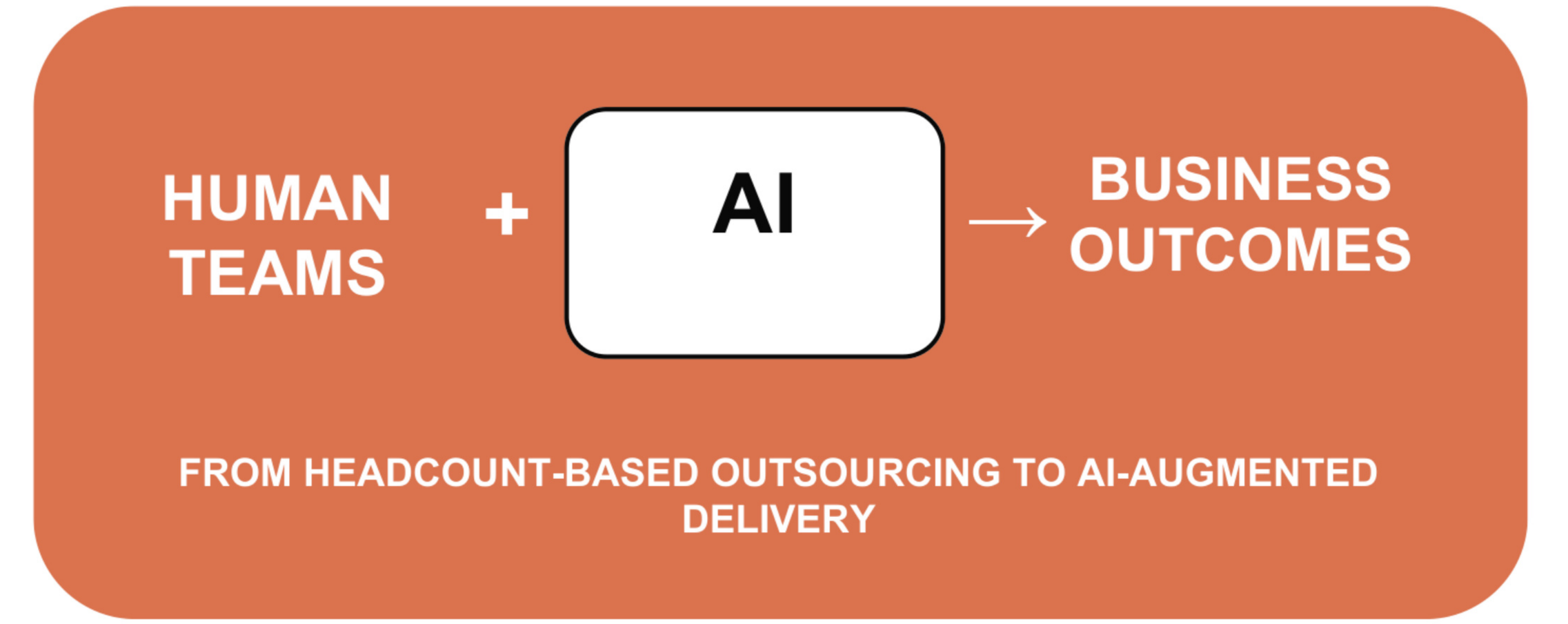
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

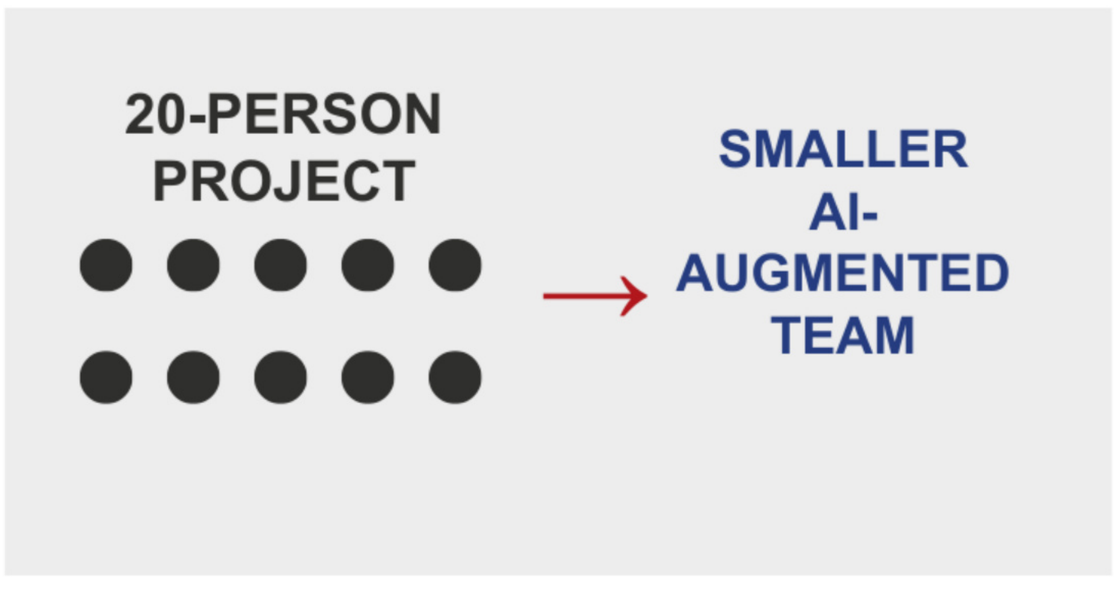
BYTE QUEST

VOLUME 192 | 26TH SEPTEMBER 2026

IMPACT OF AI ON SERVICE BASED COMPANIES

HOW ARTIFICIAL INTELLIGENCE IS RESHAPING IT SERVICE-BASED COMPANIES





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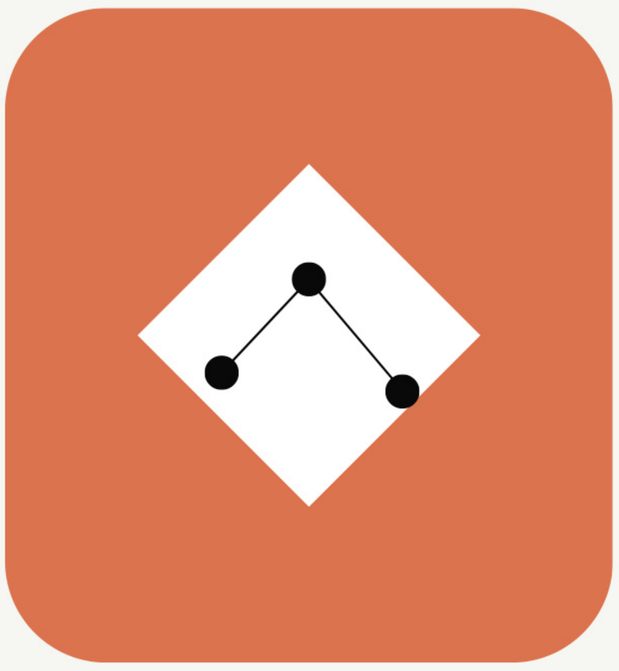

AI MEETS THE TRADITIONAL IT SERVICES MODEL

Service-based IT companies provide technology capability to banks, retailers, manufacturers, governments and other enterprises. Their traditional delivery model often combines architects, developers, testers, analysts, support engineers and project managers into large client-facing teams.

Generative AI changes the economics of that model because it can assist with boilerplate code, debugging, documentation, unit tests, code explanation, refactoring and routine support. The immediate effect is not that every engineer disappears; it is that the amount of output possible per engineer increases.

This creates pressure on headcount-linked billing. If the same project can be delivered by a smaller AI-augmented team, clients have less reason to pay primarily for the number of people assigned. The commercial model therefore begins shifting from time-and-materials toward fixed-price, platform-led and outcome-based delivery.

Entry-level work is the most exposed because repetitive, well-defined tasks are easiest to automate. Manual testing, simple CRUD implementation, documentation, routine maintenance and basic support are likely to be compressed first. Architecture, complex debugging, security, system design and ambiguous client requirements remain much more dependent on human judgment.

The strategic question for the industry is therefore not "Will AI replace IT services?" but "How much human effort will be required to deliver each unit of IT service?"

CODE

TEST

SUPPORT

DOCS

AI compresses execution time — and challenges revenue models built around billable effort.

THE PYRAMID PROBLEM: FEWER PEOPLE PER PROJECT

A traditional outsourcing project can be visualized as a pyramid: a small number of architects and senior engineers at the top, supported by a much larger base of junior developers, QA engineers and support staff. AI attacks the economics of the base first. When coding assistants generate routine implementation, testing systems create test cases automatically and support agents resolve common incidents, the same output can be produced with fewer repetitive roles. This does not imply a universal reduction by a fixed percentage; the impact depends on project complexity, regulation, legacy systems and the reliability requirements of the client.

The organizational consequence is a higher entry bar. Junior engineers will increasingly be expected to use AI tools, verify generated code, understand systems end-to-end and take responsibility for larger pieces of a project. Merely knowing syntax or one framework becomes less differentiating.

At the same time, the human role moves upward: defining specifications, choosing architecture, evaluating trade-offs, validating security, debugging unusual failures and communicating with the client. AI can generate implementations rapidly, but someone must still decide whether those implementations are correct, safe and appropriate.

The long-term risk for service companies is clear: if they continue selling raw headcount while competitors sell faster AI-enabled outcomes, their margins and pricing power can deteriorate.

ILLUSTRATIVE DELIVERY MODEL

BEFORE AI

1 Architect
3 Senior Engineers
10 Junior Developers
4 QA Engineers
2 Support / DevOps

≈ 20 people

AI-AUGMENTED

Architect / Tech Lead
Smaller engineering team
AI coding & testing agents
Automated support workflows
Human review & governance

Outcome-focused delivery

Illustrative only — actual staffing depends on the project.

THE OPPORTUNITY: FROM OUTSOURCED LABOR TO AI-ENABLED OUTCOMES

AI is not only a threat to service companies. Large enterprises still need specialists to integrate models with legacy software, secure sensitive data, modernize infrastructure, redesign workflows and govern production AI systems. These are natural extensions of the consulting and implementation work service firms already perform.

The strongest firms can therefore reposition themselves from providers of manpower to providers of technological capability. Instead of promising "500 developers," they can sell measurable outcomes such as faster claims processing, lower support cost, automated compliance checks or accelerated software modernization.

ENTERPRISE AI INTEGRATION

Connect models to internal apps, databases and business workflows.

LEGACY MODERNIZATION

Use AI-assisted engineering while preserving business rules and reliability.

AI AGENTS

Automate multi-step processes with human approval at critical points.

SECURITY & GOVERNANCE

Control data access, model risk, compliance, auditability and permissions.

AI CONSULTING

Identify where AI produces measurable business value instead of superficial automation.

PLATFORM & MLOPS

Operate models reliably: deployment, monitoring, evaluation, observability and cost control.

WHAT HAPPENS TO SOFTWARE ENGINEERS?

The differentiator shifts from "Can you write this code?" to "Can you define the right system, direct AI, verify its output, debug failures and ship a reliable result?"

CONCLUSION

AI is unlikely to eliminate the IT-services industry. It is likely to transform its unit of value: from people supplied and hours billed to technology-enabled outcomes delivered. Companies that adapt can become major AI integrators; companies that depend mainly on repetitive labor and headcount economics face the greatest pressure.

THE FUTURE: SMALLER TEAMS • HIGHER SKILL • MORE AUTOMATION • OUTCOME-BASED VALUE