Differentiating through custom software

A 2026 report on the new priorities shaping higher education technology strategy

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Foreword

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I've spent the last four years working alongside leaders in UK higher education, at world-class research universities, distance learning pioneers and post-92 institutions, navigating some of the toughest conditions the sector has faced in a generation.

Higher education in the UK is at a turning point. Frozen fees, fierce competition for a shrinking pool of international students, reduced budgets and widespread deficits have made this the most financially constrained time in recent memory. Capital programmes are being deferred, roles are being cut, estates are creaking, and yet, universities are still critically important to the UK, teaching nearly three million students annually, producing the research that underpins the UK economy, and quietly running some of the most complex digital estates in the country.

Few sectors carry the legacy systems that UK universities do. Student records platforms designed two decades ago, bespoke research computing environments, library, finance, HR, admissions and learning systems all stitched together over years of deferred upgrades. On top of this, leaders are balancing tensions that few other sectors face at the same scale.

Security has never been more important, and the sector remains a high-value target for cyber-attacks. At the same time, students expect to use their own devices and access university services seamlessly, from anywhere, on any platform.

Every CIO and COO I speak with describes the same dilemma. How do you modernise and integrate a digital estate that grew up alongside the institution, keep it secure and open in equal measure, when the cost base is being squeezed, and the talent market for specialist skills like AI, integration, cloud and data is fierce and expensive?

This is why custom software, and the conversation about how to build, govern and resource it well, matters more in higher education than almost anywhere else. There is no off-the-shelf university; each is uniquely different and complex. The right strategy, the right delivery model and the right approach to AI are critical and will define which institutions thrive over the next decade and which hold on.

This report draws on the experiences of technology decision-makers across education, and what comes through clearly is just how much of this is shared. The same questions, the same constraints, and the same opportunities are being worked through in forums like UCISA and in conversations between sector peers. What this report offers is the data behind those conversations, the patterns, the numbers and the practical insights that emerged from talking to leaders across the sector.

In this report

Executive summary

Across this report, a clear narrative emerges that institutions are modernising with intent, balancing ambition with the structural realities of governance, funding and legacy complexity.

The journey begins with **why institutions build**. Custom software is not replacing commercial off-the-shelf solutions but rather becoming the differentiation layer. The primary driver to build software is not necessarily just practical (better integration, tighter control, etc.) but is centred on experience.

> **Student and user experience has become a strategic differentiator, shaping recruitment, retention and reputation. Yet this ambition is constrained by complex ecosystems, where integration remains both a key motivator and a persistent barrier to success.**

From there, the focus shifts to **how institutions govern change**. In a sector defined by scrutiny and accountability, governance is well established, but clarity is not always guaranteed. Universities favour phased delivery, structured checkpoints and cross-functional oversight, yet challenges around data ownership and accountability across distributed systems can still slow progress.

Trust, both internally and with partners, depends on resolving this ambiguity early.

The question of **who delivers the software** highlights another tension. Internal capability gaps are widespread, particularly in scaling, maintaining and evolving custom solutions. As a result, institutions are turning to hybrid delivery models and external partners. While these partnerships are delivering tangible benefits in quality, scalability and innovation, many remain transactional. The opportunity lies in evolving these relationships into long-term, capability-building partnerships that extend beyond initial delivery.

As institutions look ahead, **what gets in the way** becomes increasingly clear. AI is a major catalyst, but also a source of friction. While adoption is underway, progress is often slowed by limited internal expertise, integration challenges and gaps in infrastructure readiness. Education leaders are approaching AI pragmatically, focusing on doing it well rather than doing it quickly, but this measured approach requires stronger foundations to move from experimentation to scale.

This leads to how AI is reshaping the model itself. AI is accelerating the shift towards custom software, making it easier to build and more essential to differentiate.

However, it also exposes weaknesses in existing technology stacks and operating models. Institutions recognise the need to invest in architecture, integration and specialist capability, but must justify these investments within constrained, highly scrutinised budgets.

Finally, the report arrives at **what value really means now**. There is a clear shift from short-term cost savings to long-term value creation. Education providers are increasingly willing to invest more upfront if it reduces the total cost of ownership, improves adaptability and delivers sustained impact. Value is being measured not just in financial terms, but through productivity gains, student experience and institutional competitiveness.

Taken together, these findings point to a sector defined by disciplined pragmatism. Educational institutions are not standing still. They are evolving deliberately, prioritising integration, strengthening governance, addressing capability gaps and building towards an AI-enabled future. The ambition is there; the challenge is ensuring that every investment delivers lasting, measurable value in an increasingly complex and fast-moving environment.

About the survey

This industry report is part of NashTech's 2026 global research programme, *'Differentiating through custom software: The NashTech 2026 report on software development in the AI age'*, and focuses specifically on the perspectives of those in the education sector.

1k

global technology leaders

116

respondents

NashTech commissioned independent research company Vanson Bourne to conduct a survey of 1,000 technology decision-makers across six key territories in 2025. Within this global sample, 116 respondents were from organisations operating in the education sector, providing the industry-specific insight presented in this report.

Respondents represented a cross-section of seniority, including board members and C-suite executives, as well as technology leaders, managers and practitioners across key functional areas such as product engineering, data and analytics, project management, and enterprise IT.

Participants came from organisations with up to 9,999 employees across EMEA, North America and APAC. While the wider study included sectors such as logistics, hospitality, consumer packaged goods, retail trade, insurance, IT and technology, this report focuses on how the findings apply specifically to education providers working in IT. In addition to enterprise respondents, Vanson Bourne surveyed independent software vendors (ISVs) to understand how product-focused organisations approach custom software; those findings are presented in the main survey report.

The research explored five areas that determine success in custom software, each with direct relevance to the education sector:

Strategy and prioritisation

Why organisations choose to build or tailor solutions rather than rely solely on commercial off-the-shelf software, how initiatives align with business objectives and which outcomes are measured.

Partner value

What buyers look for in software development partners, how those relationships are structured and how accountability and performance are governed in complex, multi-stakeholder supply chain settings.

Delivery discipline

How organisations balance speed and quality, manage risk and apply governance structures, as well as how they address resource and capability gaps through internal teams, partners and blended delivery models.

AI adoption

The expected impact of AI on supply chain software, adoption timelines and the foundations required to scale safely, including data readiness, integration maturity, MLOps and governance.

Integration and compliance

The realities of integrating custom solutions with legacy platforms such as ERP, SIS, LMS and partner systems, alongside managing data securely across distributed ecosystems.

Together, these areas provide a structured view of how educational institutions use custom software to maintain control, resilience and stakeholder confidence in an increasingly AI-enabled sector.

Key terms

AI (artificial intelligence)	The science and engineering of making intelligent machines. AI is the broad field of developing machines that can replicate human behaviour, including tasks related to perceiving, reasoning, learning, and problem-solving. In the context of this report, AI refers to both the use in business initiatives (e.g. hyper-personalised marketing) and its use in CSD (e.g. automating repetitive tasks).
Custom software	Applications or software products built specifically for a single organisation to meet its unique business needs, distinct from commercial off-the-shelf, and defines the surrounding market as **custom software development (CSD)** services that design, build, modernise, or iterate those solutions.
Custom software development (CSD)	The process of designing, building, modernising (or iterating), testing and deploying custom software solutions. Collaborative teams manage the software development lifecycle (SDLC), from requirements gathering to deployment and maintenance.
Offshore delivery centre (ODC)	A dedicated, long-term software engineering capability located in a different (usually lower cost) country from the client's primary market. It operates as an extension of the client's product/ engineering organisation, is aligned to the client's standards, tools, security, and processes, delivering ongoing build-and-run services (e.g. product development, QA, DevOps/SRE, data engineering, L2/L3 support).
Commercial off-the-shelf (COTS) software	Ready-to-use software for a broad audience with shared requirements, such as enterprise resource planning (ERP) or financial management solutions. Users benefit from standard features and updates, without major customisation.
AI technology stack	Technologies, frameworks and infrastructure components that enable AI systems to be developed, deployed and operated. Each layer supports a different part of the AI lifecycle, from data capture and processing to application delivery. This helps to minimise complexity and promote both scalability and interoperability across different AI solutions.

About NashTech

NashTech is a global provider of custom software development, technology advisory services, training services for AI models and application managed services. It develops custom-built differentiated solutions for enterprise customers and works with independent software vendors to design and build innovative new software products.

NashTech works with a wide range of industries, including insurance, logistics and supply chain, financial services, consumer and retail, and education. **It operates in 11 offices across nine countries, supported by five delivery centres and a team of more than 2,000 engineers.**

NashTech achieves a strong customer NPS of 63 (well above the 'very high' threshold of 55), with **client relationships averaging over five years**. The company combines quality, skilled people, cultural strength, high technology proficiency and a balanced on-shore/off-shore model to deliver superior experiences. NashTech is recognised for its employee training, recognition initiatives and reputation as an award-winning top employer.

26
years experience

80%
multiyear relationships

9
countries

11
offices

5
delivery centres

+2k
engineers

Section 1

Why build: strategic drivers for building custom solutions

Our survey confirmed that the majority (75%) of educational institutions spent 20–40% of their annual revenue on software and technology in the last 12 months, and 70% used a mix of commercial off-the-shelf (COTS) software and custom software (with 30% relying solely on COTS).

This level of investment, combined with a blended build-and-buy model, signals a sector that invests heavily in technology, but selectively. Custom development tends to be a targeted response to specific institutional needs.

70% Used a mix of commercial off-the-shelf (COTS) software and custom software

30% Relied solely on COTS software

Drivers for custom software development in education

When asked what would lead educational institutions to develop or customise software rather than purchase COTS, the leading driver was clear: delivering a better user or student experience. Four in ten respondents (41%) said improving the student experience would push them towards custom software development.

Factors most likely to influence educational institutions to build custom software include:

41% Better user or customer experience

40% Security, regulatory and data sovereignty concerns

39% Better integration with existing systems

Experience over integration

This marks a subtle, yet significant change compared to the overall survey sample, where integration consistently emerges as the primary driver for software development at 44%. Within the education sector, integration remains highly important (39%), but it is the focus on customer experience that takes precedence.

Differentiating through enhanced experiences has become a distinct commercial strategy for educational institutions.

Recruitment, retention and reputation are shaped by digital touchpoints across the entire student lifecycle, from application and enrolment to assessment, graduation and alumni engagement. Any friction in these digital interactions can pose a direct risk to the institution, rather than merely being a back-office inconvenience. Delivering excellent, user-tailored experiences is essential for growth, which explains why universities are prioritising custom software solutions to meet these expectations.

At the same time, universities operate within some of the most complex IT environments of any sector. Student information systems, learning management platforms, finance and HR systems, safeguarding tools and regulatory reporting frameworks must work together, but when integration is fragile or incomplete, the impact can cause administrative delays, frustrated students and reputational damage.

Compliance and security

Control and compliance still matter, but they are not as dominant as in other sectors. Thirty-six per cent cite ‘roadmap control’ as a driver for building custom software, slightly below the overall average. Security and regulatory concerns (40%) are also marginally below the total sample. Given that educational institutions are custodians of sensitive personal data and operate under strict regulatory frameworks, this data is noteworthy. The data suggests that compliance and security measures are in place and form part of any standard COTS or CSD requirement, and that institutions are now prioritising operational optimisation rather than merely meeting regulatory requirements.

Cost considerations

Thirty-four per cent say COTS solutions become too costly or rigid over time, slightly above the overall average (32%). Education operates within funding models that prioritise predictability and accountability. Multi-year procurement cycles and grant-based allocations mean technology decisions must withstand long-term scrutiny. Flexibility without escalating licence costs becomes an important consideration.

Ensuring strategic alignment in custom software projects

When asked how organisations ensure custom software projects align with strategic priorities, 55% of education respondents cited using 'cross-functional teams' to ensure alignment across departments, broadly in line with the total average (56%).

55%	56%
Education respondents	Total average

Top methods for ensuring custom software initiatives are strategically aligned

The top three ways educational institutions ensure their custom software initiatives are aligned with their institution's strategic priorities are:

55%	Cross-functional teams involved across departments
48%	Direct mapping to strategic plan objectives
48%	Performance metrics or KPIs tied to strategic goals

This reliance on cross-functional input reflects the distributed governance model of many universities, where academic, operational and compliance stakeholders all influence decision-making. However, education providers were less likely than the average to employ executive sponsorship from business leaders outside IT or regular board-level input. This may signal a potential risk: without strong cross-executive ownership, custom initiatives can remain technology-led rather than institution-led.

Balancing speed and quality in delivery

When considering delivery priorities for their custom software initiatives, almost half (46%) of education providers cited the need for a balance of speed and quality, in line with the overall average. However, the lean towards quality was stronger than the pull of rapid delivery. In a sector built on academic rigour and long-term credibility, speed is rarely the driving force. Instead, durable and dependable solutions take precedence over the rapid speed of delivery.

Demonstrating value and ROI

In education, return on investment (ROI) from custom software initiatives is measured in practical and human terms. When assessing ROI, 56% cite 'quantifiable productivity improvements' as the leading metric, followed closely by 'customer satisfaction or Net Promoter Score improvements' (54%), and 'quantifiable cost reduction' (47%). This indicates that educational institutions define value not only through savings but through service enhancement and institutional effectiveness.

To justify ongoing investment to boards and senior leadership, educational institutions lean heavily on narrative proof points. Fifty-nine per cent say they justify ongoing investments in custom software by demonstrating competitive advantage, 50% use user testimonials and success stories, and 49% benchmark it against alternatives; all of these methods of justification are higher in education than across the total average. Unlike sectors that prioritise formal value realisation reporting, education institutions place strong emphasis on demonstrating tangible improvements in the student journey.

Key measures for custom software ROI in education

56%	Quantifiable productivity improvements
54%	Customer satisfaction/Net Promoter Score (NPS) improvement
47%	Quantifiable cost reduction

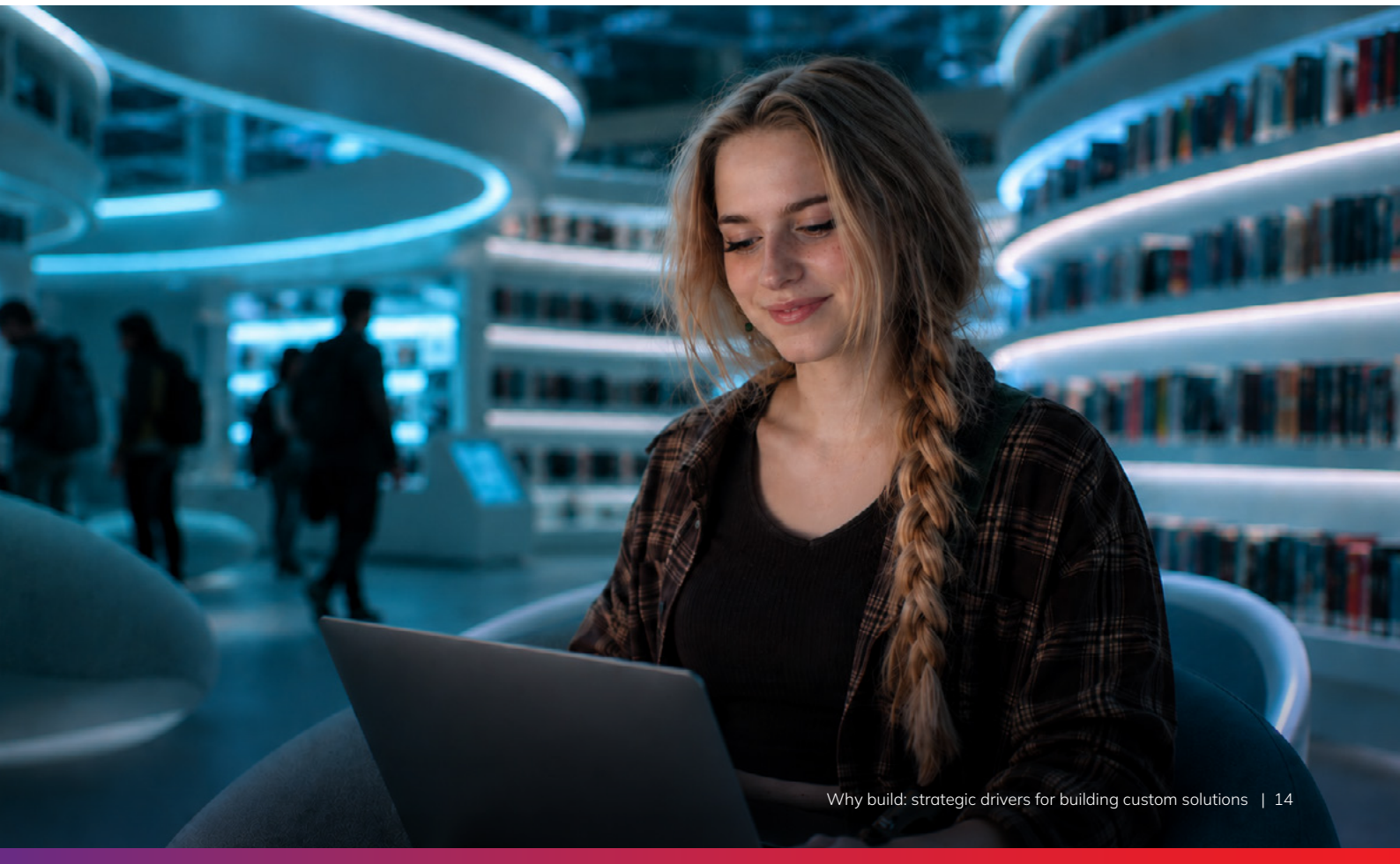
Barriers to success: integration, adaptability and expertise

When asked about the challenges educational institutions had when implementing custom software, 42% cite ‘integration issues’ with existing or legacy systems (higher than the total average of 40%), 41% report ‘difficulty adapting solutions to evolving business needs’, and 37% highlight ‘limited internal expertise to maintain or scale solutions’. All three exceed the overall survey averages, suggesting that ambition is often constrained by legacy complexity and capability gaps.

The top three challenges that educational institutions experienced when implementing custom software solutions:

42%	Integration issues with existing or legacy systems
41%	Difficulty adapting the solution to evolving business needs
37%	Limited internal expertise to maintain or scale the solution

Throughout the survey, implementation is reported to both advance and impede the progress of custom software development.



The performance gap: expectation vs. outcome

When asked to what extent their most recent custom software initiative realised its original business case, 45% of education respondents said it exceeded projections, substantially lower than the total average of 57%. Meanwhile, 22% said initiatives fell below expectations, compared with 11% across the full sample.

To what extent were the business benefits of your latest custom software development initiative in line with the original business case?

Education	45%	exceeded expectation
	22%	below expectation
All industries	57%	exceeded expectation
	11%	below expectation

The gap between expectations and outcomes is striking. Universities and other educators are investing heavily in custom software to differentiate themselves, yet these projects often fall short of their ambitious goals. Software integration can often prove more complex than anticipated and managing change requires significant effort and attention to people. IT teams in educational institutions, whether working with partners or in-house, must address these challenges directly to ensure their custom solutions deliver lasting improvements and genuinely enhance the student experience.

NashTech's perspective

At NashTech, we see firsthand that education providers are not seeking to overhaul their technology estates simply for the sake of change. Instead, their focus is on intelligent modernisation, strengthening integration, enhancing the digital student journey and maintaining compliance, all while avoiding unnecessary complexity.

This approach often involves working with existing platforms, improving interoperability through APIs, migrating to the cloud and implementing targeted customisations that deliver clear, measurable benefits. In our experience, institutions that achieve the best results view integration as a strategic capability rather than a mere technical detail. They combine robust governance with delivery partners who understand both the regulatory environment and the practical realities of higher education.

Quick takeaway

Ask yourself, "*Where is our student digital journey breaking down because our systems don't talk to each other*?" Choose one high-impact journey, such as enrolment or assessment, map it end-to-end and identify where manual workarounds, duplicate data entry or system gaps are creating frustration for students and staff. Instead of defaulting to large-scale rebuilds, prioritise targeted integration improvements, API enablement and smarter orchestration between existing platforms.

Section 2

How do you govern it? Governance, risk management and stakeholder confidence

Section one explored why educational institutions choose to build custom software. This section explores who makes it safe.

Custom software increases accountability. Unlike COTS, where responsibility is shared with a vendor roadmap, custom development places decision-making, risk and long-term ownership squarely within the institution. In a sector defined by public scrutiny, regulatory oversight and diverse stakeholder groups, governance is the mechanism that determines whether a project earns trust or triggers resistance.

Biggest data security and compliance challenges

When asked about the biggest data security and compliance challenges in custom development, education technology leaders most frequently cited concerns about third-party providers' handling of sensitive data (51%), a concern shared by the total average (48%) in the data set.

This is telling. Universities are custodians of vast volumes of highly sensitive data, academic records, financial details, research outputs and personal information. Trust in delivery partners is therefore as critical as technical capability.

More strikingly, 41% cited a lack of clarity around data ownership and responsibility, more than any other industry. This reflects the complexity of higher education ecosystems, where data flows across faculties, partner institutions, research collaborators and outsourced services. In such environments, ambiguity is risk.

51% Are concerned about third-party providers' handling of sensitive data

41% Cited a lack of clarity around data ownership and responsibility

The main governance issue isn't only about cybersecurity, but about clearly defining and agreeing on accountability across a widespread technology environment.

Most effective risk management approaches

When reassuring internal stakeholders during custom projects, educational institutions favour disciplined progression over financial buffers.

The most effective risk management approach cited was a phased process with clear go/no-go decision points (51%), which exceeds the total average. Instead of relying predominantly on contingency budgets or timeline buffers (38% compared to 43% overall), institutions favour structured validation checkpoints.

Top risk management approaches during custom software initiatives

51%

Phased approach with clear go/no-go decision points

46%

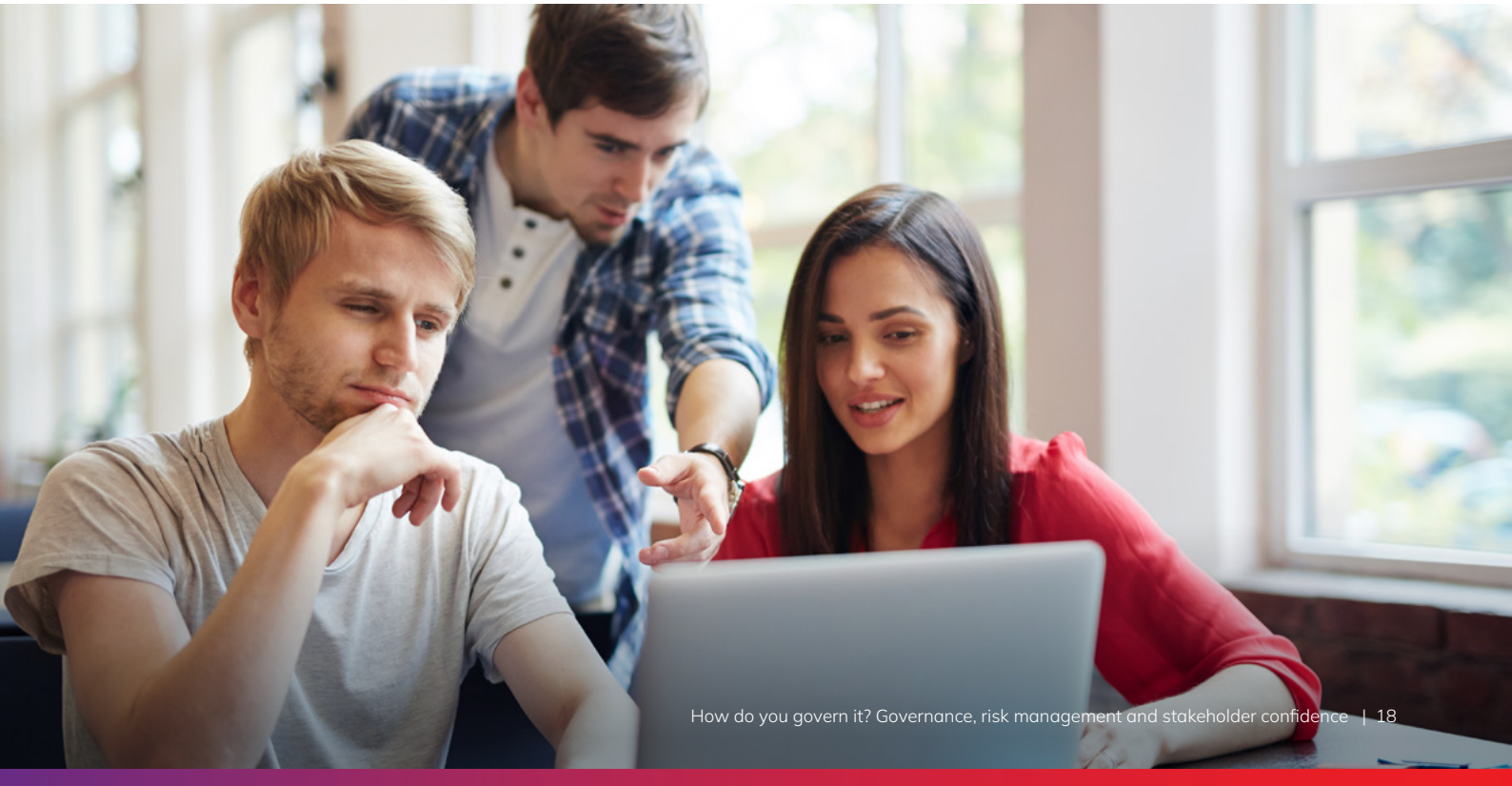
Dedicated business sponsor with decision authority

44%

Detailed risk register with mitigation strategies

This suggests a sector that values control and visibility. Decision gates allow leadership to manage exposure incrementally, particularly important in environments where projects may span academic years and funding cycles.

Notably, nearly half rely on a dedicated business sponsor with decision authority. This reflects the need to bridge academic and administrative domains, ensuring that technology decisions remain aligned to institutional priorities rather than isolated within IT.



Governance structures to maintain stakeholder confidence

When examining formal governance structures used to maintain stakeholder confidence, educational institutions report strong alignment with wider industry practice:

53%

Executive steering committee with regular reviews

vs **57%** total

52%

Formal stage-gate process with defined evaluation criteria

vs **55%** total

48%

Regular board reporting with standardised performance metrics

vs **56%** total

The first two mechanisms demonstrate procedural maturity. Steering committees and stage-gate processes are embedded norms.

However, the slightly lower reliance on regular board reporting compared to the total average may signal an opportunity. As technology continues to influence recruitment, student satisfaction and regulatory outcomes in this sector, making digital initiatives a regular topic at the board level could improve how well institutions coordinate and govern custom software initiatives.

Education operates at the intersection of public scrutiny, distributed governance and long funding horizons. These structural realities explain why delivery caution, phased risk models and sector-aware partners matter more here than in many commercial sectors.

NashTech's perspective

In our experience working with higher education institutions, governance is rarely the issue; clarity is. Universities are typically disciplined and risk-aware, with phased delivery models and formal oversight already in place. The greater challenge lies in defining clear data ownership, accountability and partner responsibilities early, particularly when multiple systems and third parties intersect. Institutions that embed security by design, align governance to measurable outcomes and treat vendor partnerships as strategic enablers tend to deliver custom software with greater confidence and long-term value.

Quick takeaway

Define data ownership and accountability upfront, it will reduce risk and accelerate delivery more effectively than adding layers of oversight later.

Section 3

Who helps you deliver it? The skills gap, delivery model and partner strategy

This section explores how education providers select third-party offshore partners, their delivery model, the challenges or concerns they fear and the many benefits they are seeing.

The capability is limited in-house

Our survey highlighted that 97% of respondents in the education sample had concerns about resource requirements and capabilities. When asked, educational institutions cited having:

54%	Challenges maintaining or updating software after delivery
42%	A lack of internal expertise in AI architecture and engineering for generative AI
37%	Limited internal expertise to maintain or scale a custom solution
37%	A lack of internal expertise in AI architecture and engineering for agentic AI
17%	Limited internal expertise on compliance requirements

It is unsurprising that almost half of the respondents in the education cohort report that 21–40% of their custom software development is delivered offshore through third-party providers.

Capability concerns are managed collaboratively

The capability constraints highlighted in section one reappear here in sharper form. To address resource and capability concerns, educational institutions are adopting various tactics and delivery models, with respondents saying:

55% **Adopt a hybrid team model** *(using a blend of internal and external resources)*

53% **Implement a staged resource plan aligned to project phases** *(this percentage was higher than the total average)*

52% **Establish knowledge transfer plans from vendors to internal teams** *(avoiding future over-reliance)*

This reflects a measured approach. Rather than over-relying on either internal teams or external providers, institutions are blending capabilities while planning for long-term ownership. The emphasis on staged resource planning suggests sensitivity to budget cycles and workload pressures within academic environments.

What educational technology leaders look for in a partner

When selecting a custom software services partner, cost is not the primary differentiator. Educational institutions are clear about what matters most beyond price.

59%

Want their partners to have a deep understanding of the sector

vs **52%** in the total sample

49%

Are looking for high quality engineering and delivery

vs **57%** in the total sample

46%

Prioritise adherence to security, regulatory or compliance standards

vs **50%** in the total sample

The emphasis on domain understanding stands out. Educational institutions value partners who understand academic cycles, regulatory pressures, stakeholder complexity and the sensitivities of student data. Technical skill alone is not sufficient; contextual awareness is critical.

Interestingly, institutions are less likely than the wider market to prioritise a CSD provider's proven track record of long-term engagements (37%) or a reputation for treating employees well (27%).

This may suggest that procurement decisions are still weighted towards immediate project capability rather than long-term partnership attributes.

That interpretation is reinforced by how relationships are currently described. While 43% of educational institutions characterise their provider as a trusted delivery partner, this is slightly below the total average (47%). Even fewer see their provider as a strategic partner aligned to long-term goals and high-value initiatives. Meanwhile, 25% describe their provider in more transactional terms, a project-based resource brought in for a defined scope.

The reasons for this become clearer when examining the delivery challenges faced when working with an offshore CSD provider. Educational institutions report higher-than-average difficulty in:

54%

Maintaining or updating software after delivery

vs **45%** total

50%

Keeping up with evolving requirements

vs **40%** total

45%

Integration with existing or legacy systems

vs **46%** total

The first two challenges significantly exceed the overall average.

Institutions are not primarily struggling with projects running late; they are struggling with sustainability and adaptability once systems go live.

This aligns with earlier findings that over a third of education respondents cite limited internal expertise to maintain or scale custom solutions. If internal capability is constrained, post-delivery maintenance naturally becomes a challenge. In this context, it is understandable that partners may be viewed more as tactical delivery resources, rather than long-term strategic enablers.

Concerns around offshore development further illustrate the tension. Nearly half (48%) cite data security and compliance risks as a key concern when considering offshore partners. Notably, concern levels vary by seniority: 57% of mid-level management express this worry, compared with 37% of board members and C-level executives. This may reflect the operational teams' proximity to data handling and system realities.

The top offshore concerns for the education sector are:

48%	Data security and compliance risks
40%	Limited visibility or control over delivery
40%	Cultural differences in working styles

Interestingly, board members are more likely than mid-level teams to highlight cultural differences, suggesting that leadership may be thinking about long-term alignment and collaboration, while operational teams focus more on control and compliance.

Despite these concerns, outcomes tell a more positive story. Among organisations partnering with offshore teams, 99% report improvements.

For education institutions specifically:

52%	Saw higher software quality and reliability
49%	Saw greater team scalability and flexibility
48%	Saw increased innovation and faster delivery of new features

This suggests that while apprehension remains, offshore partnerships are delivering tangible value.

Educational institutions are using external partners to fill capability gaps and scale delivery, but many relationships remain execution-focused rather than transformation-led. As custom software becomes more central to student experience and institutional performance, the maturity of partner strategy will increasingly influence overall success.

NashTech's perspective

Institutions gain quality and scalability from offshore and hybrid models, yet relationships sometimes remain confined to project scope rather than strategic collaboration.

The most successful organisations work with their development partners, such as NashTech, as if they are part of their own team. They share expertise, transfer knowledge and ensure long-term responsibility within the partnership. When partnership evolves beyond "delivery resource" to "capability multiplier", sustainability challenges begin to diminish.

Quick takeaway

If your partner is still measured only on project delivery, redefine the relationship around long-term maintainability and capability transfer.

Section 4

What gets in the way? AI readiness and barriers

Artificial intelligence (AI) is here, it is active, and it is reshaping how institutions design, deliver and maintain custom software. But adoption is not a straight line. Even with clear ambition, progress can stall when internal readiness does not match strategic intent.

Among educational respondents, 41% say they have already adopted or are implementing an increased use of AI in custom software development, compared with 51% across the wider sample. A further 47% expect to adopt within the next six to 12 months. This signals momentum but also measured intent. Education leaders appear less interested in racing ahead and more focused on getting implementation right, prioritising governance, safeguarding and long-term stability.

However, delivery friction is real.

Forty-two per cent cite a lack of internal expertise when adopting generative AI, slightly above the overall average of 39%. In parallel, one-third report limited access to scalable infrastructure or mature MLOps capabilities. These challenges directly affect experimentation speed, model reliability and the ability to move from pilot to production. But accessing custom software development partners with the right generative AI capabilities is also cited as a challenge for 41% of educational institutions surveyed.

Integration is another pressure point. 42% say they are finding it difficult to integrate agentic AI with legacy systems. For many institutions, technology estates have evolved over decades. Introducing AI into environments built for stability rather than adaptability requires architectural thinking, not just new tools.

Interestingly, 25% report they have not yet encountered AI challenges, which, by implication, means 75% have. This reflects a sector that is actively engaging, learning and piloting AI rather than simply observing from the sidelines.

Three-quarters of the education tech leaders we surveyed had encountered AI challenges, including:

42%

Lack internal expertise when adopting generative AI

41%

Struggle to access CSD partners with the right generative AI capabilities

33%

Have limited access to scalable infrastructure or MLOps capabilities

When it comes to perceived impact, there is a subtle but important difference. Across the total sample, 75% believe increased AI use will have a high impact on custom software development. In the education cohort, this drops to 62%. And 10% believe AI will have a low impact, compared to just 3% overall.

This suggests a more pragmatic lens. Education leaders are optimistic, but not unquestioning. AI is viewed as transformative, yet not automatically so. Value must be proven in context, improving learning outcomes, operational efficiency or compliance integrity, rather than assumed.

NashTech's perspective

AI ambition without the ability or capacity to deliver creates friction. In education, success depends less on enthusiasm and more on execution foundations: secure data pipelines, scalable infrastructure, robust MLOps and integration frameworks that respect legacy constraints.

Progress relies on aligning AI experimentation with architectural modernisation and skills uplift. Building internal capability alongside trusted external expertise allows organisations to move confidently from controlled pilots to sustainable, production-grade AI solutions.

AI impact in education will come from integrated ecosystems designed to evolve safely and strategically.

Quick takeaway

Invest in capability and integration readiness before scaling AI ambition.

Section 5

How is AI changing everything? AI economic model and structural transformation

AI is creating a structural shift in how enterprise software is conceived, built and delivered. The survey data shows that education leaders understand this clearly, but they are navigating it with slightly tentative steps.

AI is rewriting the build versus buy equation

Almost all education respondents (95%) agree that artificial intelligence is speeding up the shift from using commercial off-the-shelf (COTS) software only to developing custom solutions as part of their technology strategy. There's a growing understanding among educational institutions that **AI's real benefits can't just be tacked onto old COTS platforms.** To stand out with AI, it takes bespoke integration, tailored data models and intelligence that fits specific workflows.

The trend towards custom development is backed up by 96% who say AI has made building custom software much easier. But there's a catch: 82% feel their current technology stacks aren't ready for an AI-first world, which is a bit higher than the overall average of 80%. So, while it's getting easier to build custom solutions, many still worry they're not fully set up to make the most of AI.

Because of this, education tech leaders are rethinking their strategies. It's not about whether or not to invest in custom capability, but about finding ways to do it that are both sustainable and ready for the future.

96% believe AI has made custom software easier to build

95% agree AI is accelerating the shift from COTS to custom solutions

82% feel their current technology stacks aren't ready for an AI-first world

Paying for long-term value, not short-term savings

With many respondents feeling ill-equipped to maximise the use of AI, it is perhaps unsurprising that educational institutions are exploring building third-party partnerships with custom software development providers to accelerate AI adoption.

What education institutions want from custom software and AI partners

The data shows a clear recognition of the need for specialist AI capability:

59%	emphasise industry understanding alongside AI skills
29%	prioritise cultural fit with the educational institution
28%	highlight the need for partners with deep AI engineering capability

Education places significantly more weight on sector understanding and cultural alignment than the broader enterprise cohort. AI capability alone is not enough. Partners must understand compliance pressures, governance structures, procurement cycles and stakeholder complexity unique to education.

Beyond engineering skill, institutions are also seeking support across:

- Infrastructure modernisation
- Integration into legacy estates
- Governance and regulatory alignment

This reflects a broader truth: AI transformation is architectural, not tactical.

The financial and ROI tension

Despite strong strategic AI conviction, an age-old challenge still stands in the way. Paying for it.

Forty-four per cent of education respondents say they are challenged by budget constraints or unclear ROI around generative AI initiatives. But the thirst to spend money on AI is there, with:

98%	say they would be willing to pay more for a technology partner that provides greater long-term value and reduces the total cost of development or ownership
28%	exploring partnerships with custom software development providers to accelerate AI adoption
24%	re-architecting the tech stack to support Generative and Agentic AI capabilities
5%	maintaining their current technology approach with minimal AI integration

This highlights a familiar paradox: AI is viewed as strategically essential, yet financially ambiguous. Institutions must justify investment in environments where public scrutiny, funding cycles and accountability standards are high.

NashTech's perspective

Education is not hesitant about AI. It is cautious about missteps. The sector understands that AI is shifting enterprise software from packaged uniformity to contextual differentiation. But it is equally aware that layering AI onto fragile infrastructure will only amplify technical debt.

The opportunity lies in combining three elements:

- Modern, scalable architecture foundations
- AI engineering depth
- Sector-aware delivery models that respect governance and funding realities

From our perspective, achieving success with AI means matching your ambitions to how ready your systems are, keeping an eye on long-term costs, and designing your technology thoughtfully.

Quick takeaway

Education leaders should prioritise modernising core architecture and selecting AI-capable partners with deep sector understanding to ensure custom AI investments deliver sustainable long-term value.

Section 6

What does value really mean now? Economic value and long-term thinking

Value in education technology is no longer defined by the lowest upfront cost. It is increasingly measured by whether technology investments reduce long-term complexity, improve resilience and create the flexibility institutions need to keep evolving.

This is particularly clear in how education leaders view partner investment. Almost all education respondents (98%) agree they would be willing to pay more for a technology partner that provides greater long-term value and reduces the total cost of development or ownership. This is not a blank cheque for higher spending. It signals a more mature view of value: one that considers maintainability, scalability, integration quality and the ability to adapt as institutional needs change.

This shift matters because education providers are under pressure from both sides. They need to modernise fast enough to meet student, staff and AI-driven expectations, but they must do so within tight funding models, complex governance structures and long procurement cycles.

The data shows that institutions are already thinking beyond simple cost reduction. When measuring ROI, education respondents prioritise productivity improvements (56%), customer satisfaction or NPS improvements (54%) and quantified cost reduction (47%). In other words, value is operational, experiential and financial.

There is also a strong link between value and strategic differentiation. Fifty-nine per cent of education respondents justify ongoing investment in custom software by demonstrating competitive advantage, while 50% use user testimonials and success stories. This reflects the reality of higher education: digital experience influences reputation, recruitment, retention and institutional confidence.

Education leaders are redefining value as long-term impact:

98%	would pay more for a partner that provides greater long-term value and reduces the total cost of development or ownership
59%	justify ongoing custom software investment by demonstrating competitive advantage
56%	measure ROI through quantified productivity improvements
54%	measure ROI through customer satisfaction or NPS improvement
47%	prioritise quantified cost reduction

AI is sharpening this value equation. Ninety-five per cent of education respondents agree that AI is accelerating the shift from COTS software to custom software in enterprise technology strategy, and 96% agree that AI has made custom software development more accessible. Yet 82% also agree that current technology stacks are increasingly ill-equipped for an AI-first world.

This creates a clear commercial tension. Custom development is becoming more accessible and strategically important, but only if institutions invest in the foundations that make it sustainable.

For education leaders, the question is not *"What will this cost?"*, it is *"Will this still deliver value in three, five or 10 years?"*

NashTech's perspective

Lowest-cost delivery can look attractive at the start, but it often creates hidden costs later through poor maintainability, weak integration, limited knowledge transfer or solutions that cannot adapt to new requirements. True value comes from building technology that reduces friction over time.

That means selecting partners who can balance engineering quality with sector understanding, governance awareness and long-term accountability. It also means designing custom software with future change in mind:

- Modular architecture
- Clear ownership
- Strong documentation
- Robust integration
- Measurable outcomes from day one

For educational institutions, economic maturity is about spending carefully, not cheaply.

Quick takeaway

Move value conversations away from upfront cost and towards total cost of ownership. Before approving a custom software initiative, define how it will reduce complexity, improve experience, support future AI readiness and remain maintainable beyond the first release.

Appendix

*Except where noted, findings shown here are based on responses of **116 participants from the educational services sector.** The data in this appendix relates to the respondents from this industry only. To access the full data set, including insights from across nine industries, please click here.*

Profile

Organisation size

Approximately, how many employees does your organisation have globally?	
500-999 employees	6%
1,000-2,999 employees	27%
3,000-4,999 employees	18%
5,000-9,999 employees	49%

Department

In which one of these functional areas are you primarily employed within your organisation?	
Information technology	99%
Data and Analytics	1%

Position

Which of these best describes your position in the organisation?	
Board member; C-level	29%
Senior management; senior manager of unit, function or department	49%
Mid-level management; manager of team or silo	22%

Organisation sector client

Within which of the following sectors does the organisation that you work for operate?	
Logistics and supply chain	18%
IT and technology (including independent software vendor)	15%
Insurance	14%
Educational services	14%
Retail trade	10%
Consumer packaged goods	6%
Manufacturing	5%
Hospitality	4%
Finance (excluding insurance)	3%
Health care and social assistance	2%
Construction	2%
Professional, scientific and technical services	2%
Wholesale trade	1%
Transportation and warehousing	1%
Administrative and support and waste management services	1%
Utilities	1%
Public administration	1%

Revenue

Approximately, what is your organisation's global annual revenue in USD?	
$25.1 million - $50 million	2%
$50.1 million – $100 million	3%
$100.1 million - $250 million	4%
$250.1 million - $500 million	8%
$500.1 million - $1 billion	23%
$1.1 billion - $5 billion	44%
$5.1 billion - $10 billion	15%
$10.1 billion - $50 billion	2%

Reinvestment

Approximately what percentage of your organisation's annual revenue was invested in software/ technology innovation in the last 12 months?	
Less than 10%	4%
10-20%	19%
21-30%	47%
31-40%	28%
41-50%	2%

Approach to custom software

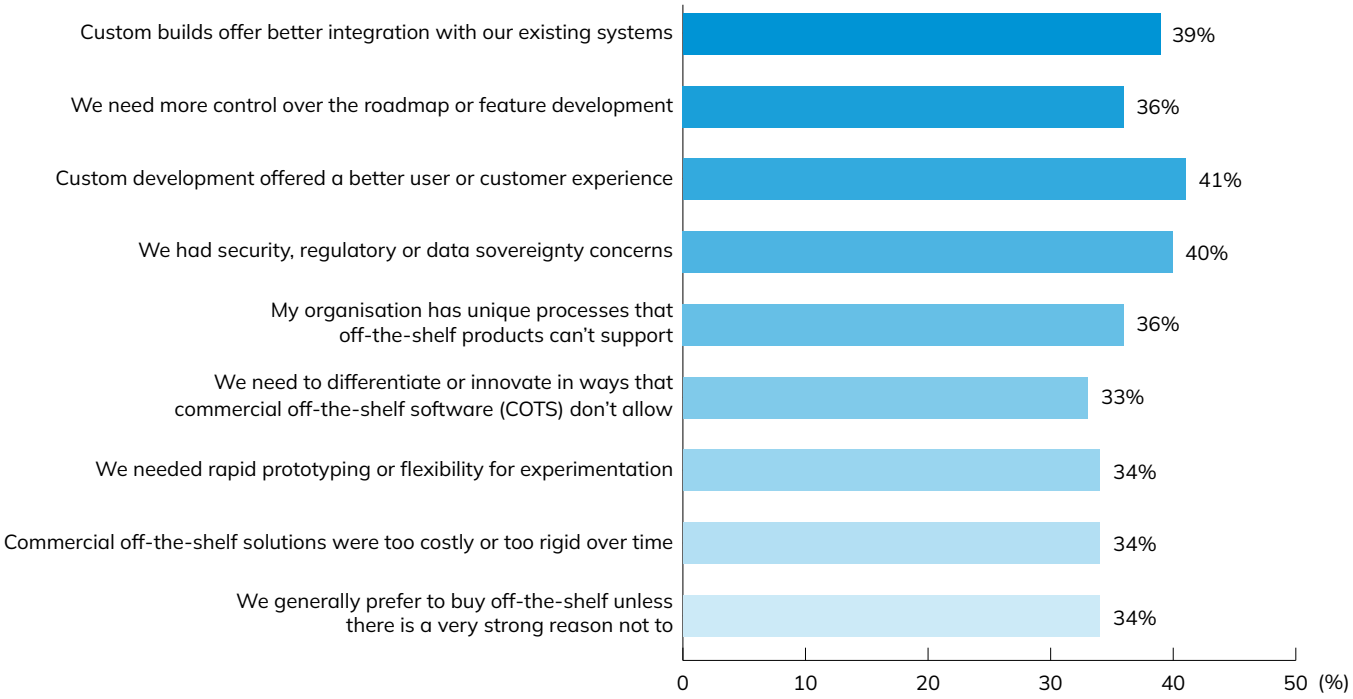
Which of the following best describes your organisation's current approach when acquiring custom software development?	
My organisation primarily buys commercial off-the-shelf (COTS) and customises it moderately	30%
My organisation evaluates both COTS and custom development equally, depending on the need	70%
My organisation only builds its own custom software	0%

Software delivery model

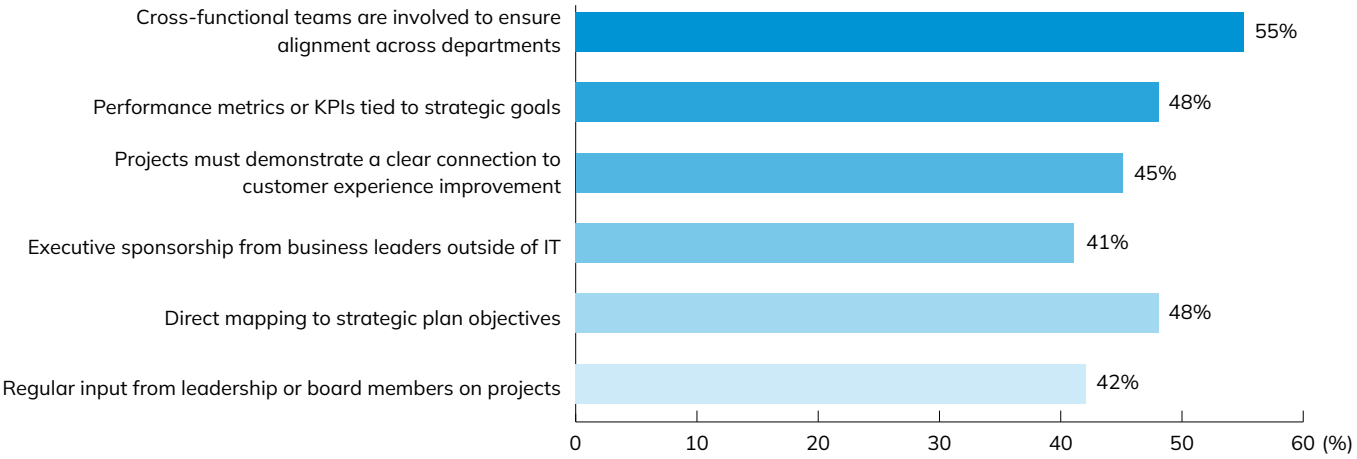
When considering your organisation's custom software development initiatives within the last 12 months, what has been your typical delivery model? *(Base: Organisation does some software customisation or is an ISV)*	
Only in-house development	1%
Combination of in-house and contractors (managed as temporary members of staff)	11%
Combination of in-house and custom software third-party supplier(s)	82%
Fully outsourced to custom software third-party supplier(s)	6%

Survey questions

What factors, if any, would lead your organisation to develop or customise a software solution rather than purchase a commercial off-the-shelf (COTS) product?

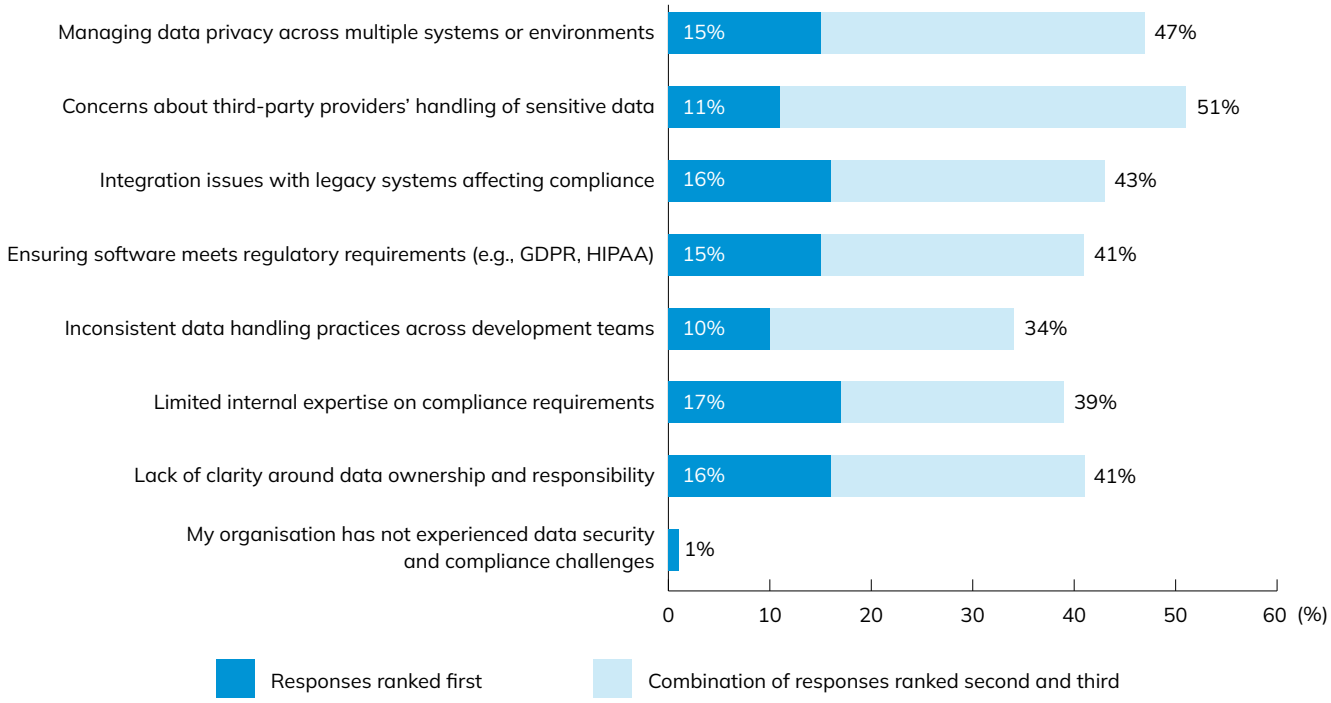


In what ways does your organisation ensure that custom software development projects align with its current strategic business priorities?



*Summary: **100%** of organisations' custom software projects are aligned with strategic business priorities.*

What are the biggest data security and compliance challenges your organisation has faced in custom software development?

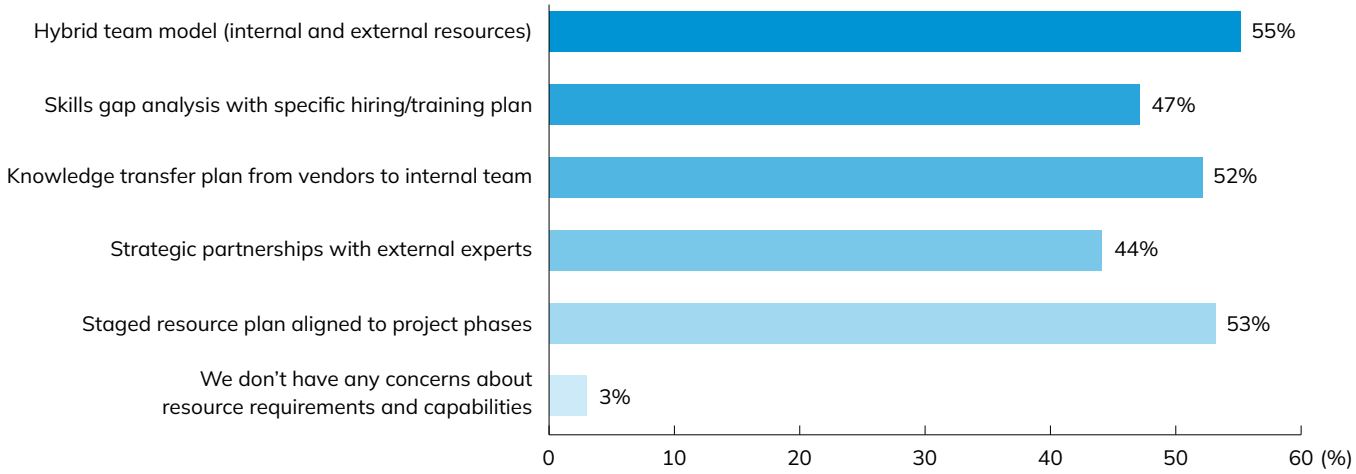


*Summary: **99%** of organisations have experienced data security and compliance challenges.*

Which of the following risk management approaches was most effective in reassuring internal stakeholders during a recent custom software development project?

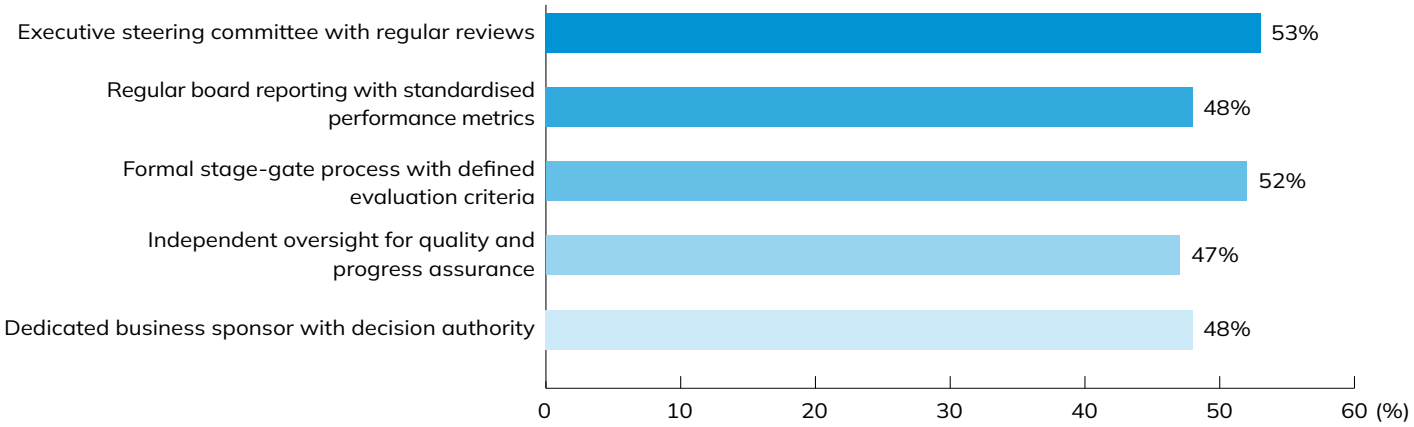
*Summary: **100%** of organisations presented a risk management approach to stakeholders.*

How does your organisation address concerns about resource requirements and capabilities during its custom software projects, if any?

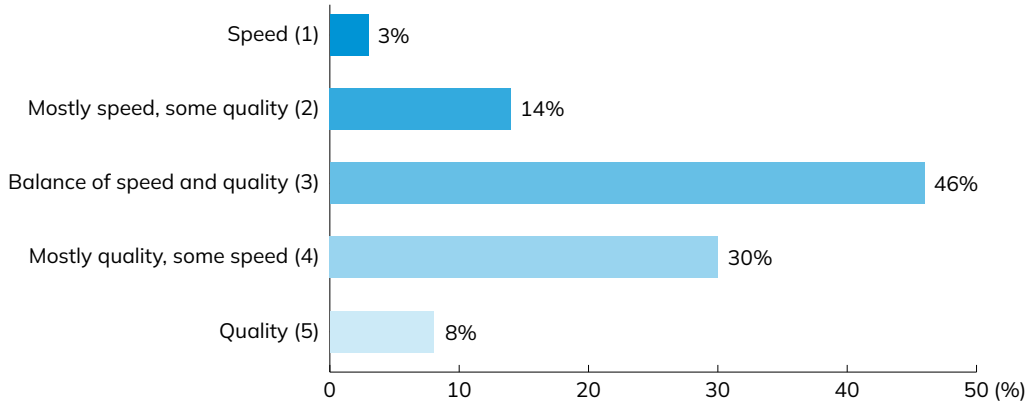


*Summary: **97%** of organisations have concerns about resource requirements and capabilities.*

What governance structures or practices are implemented to maintain internal stakeholder confidence throughout the custom software project?

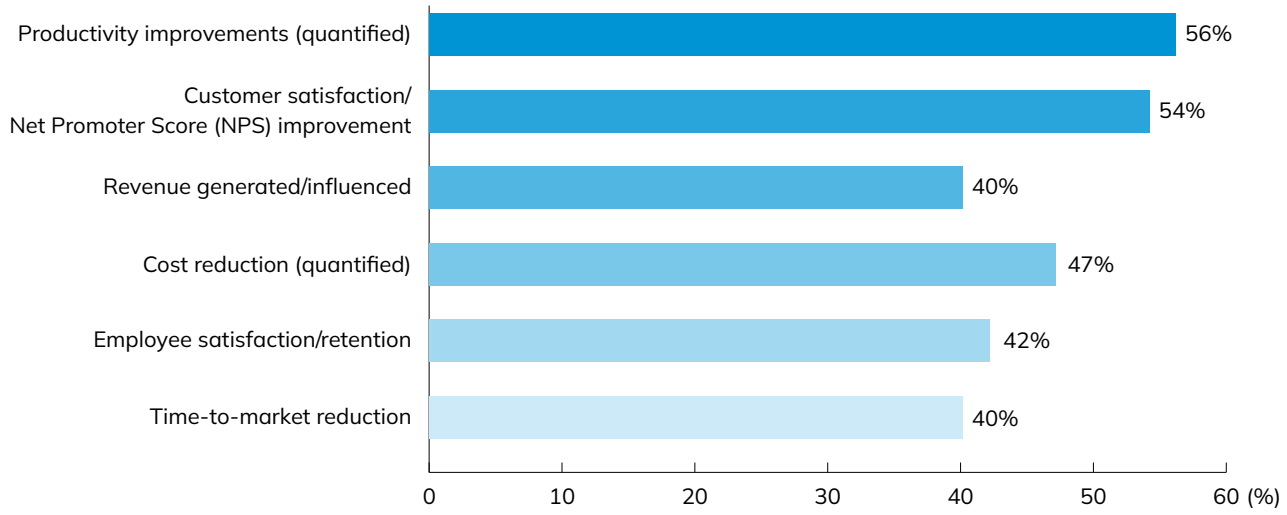


What does your organisation prioritise during custom delivery software development projects?



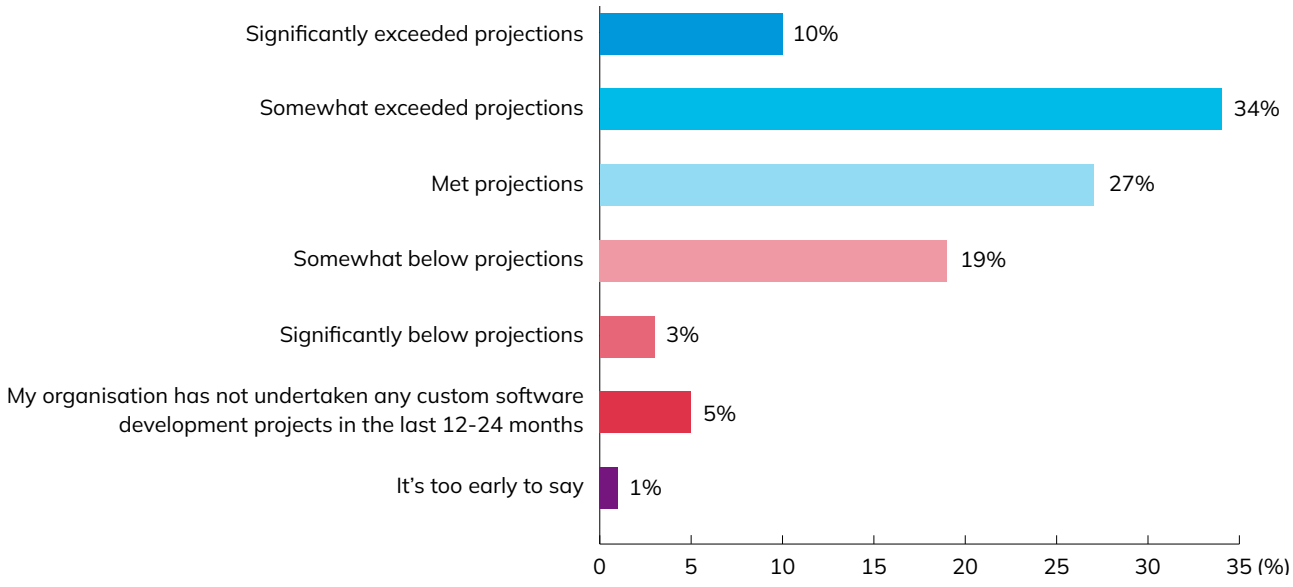
Mean = 3.27

What metrics does your organisation use to demonstrate the return on investment (ROI) of custom software development projects?



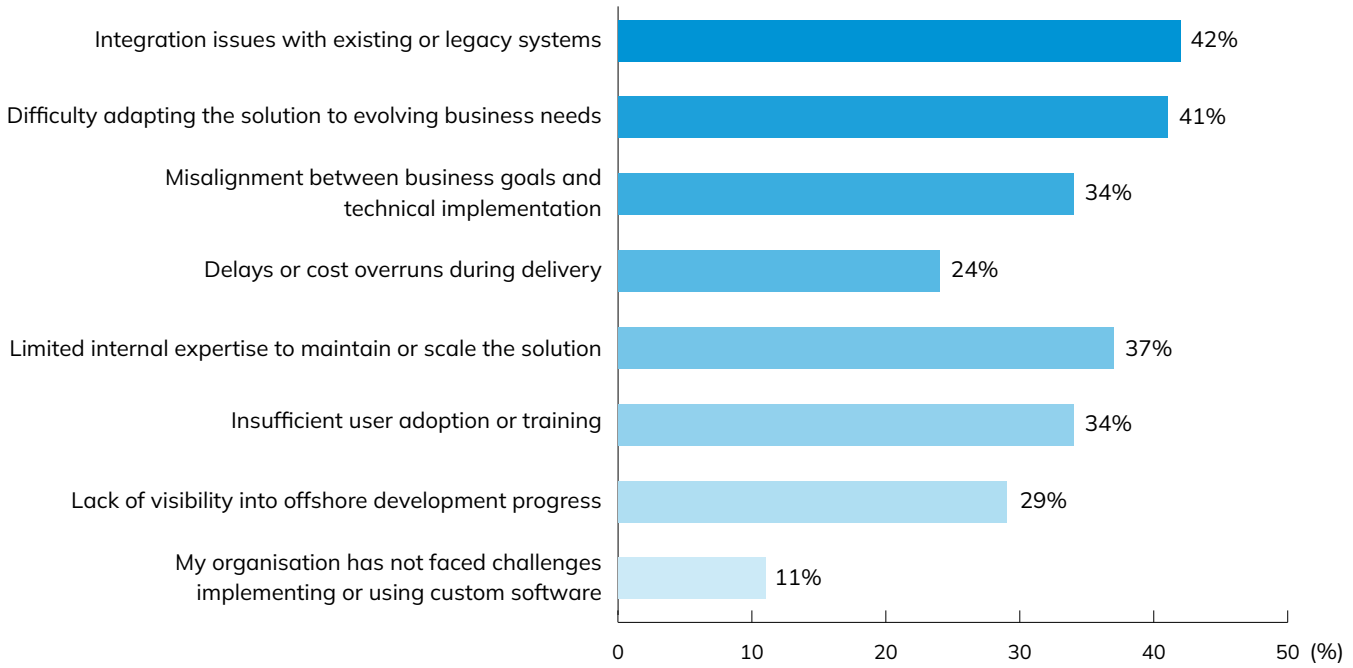
*Summary: **100%** of organisations measure/demonstrate ROI for their custom software development projects.*

Considering the most significant custom software development initiative undertaken by your organisation in the last 12-24 months, to what extent were the realised business benefits in line with the original business case?



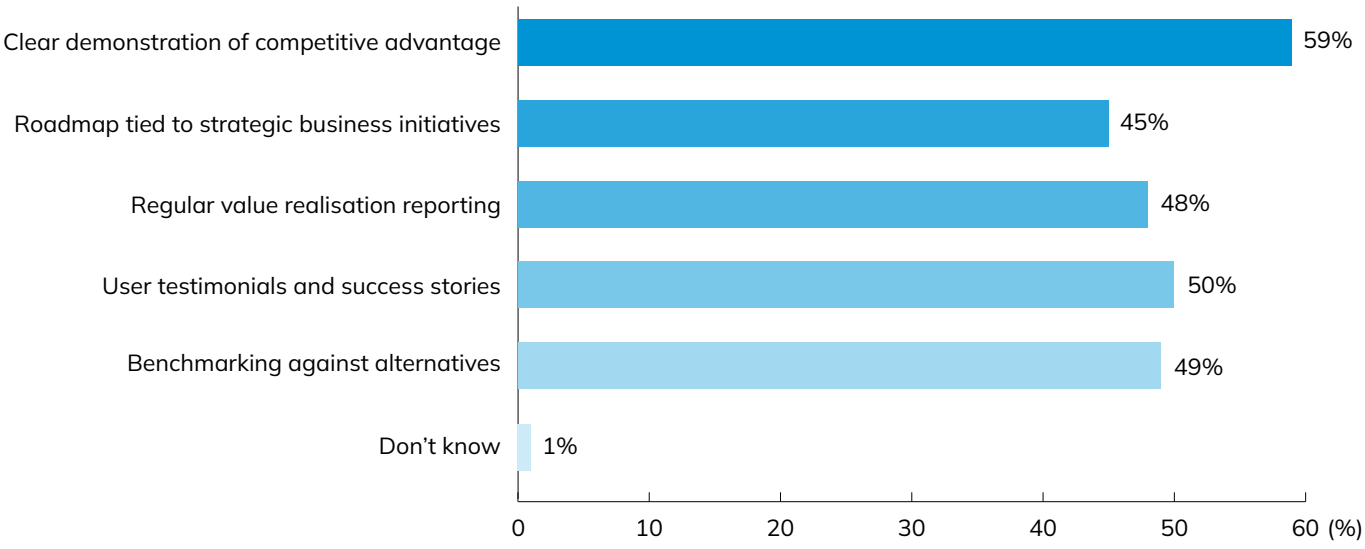
*Summary: **45%** exceeded projections; **22%** fell below projections.*

What challenges has your organisation experienced when implementing or using custom software solutions?



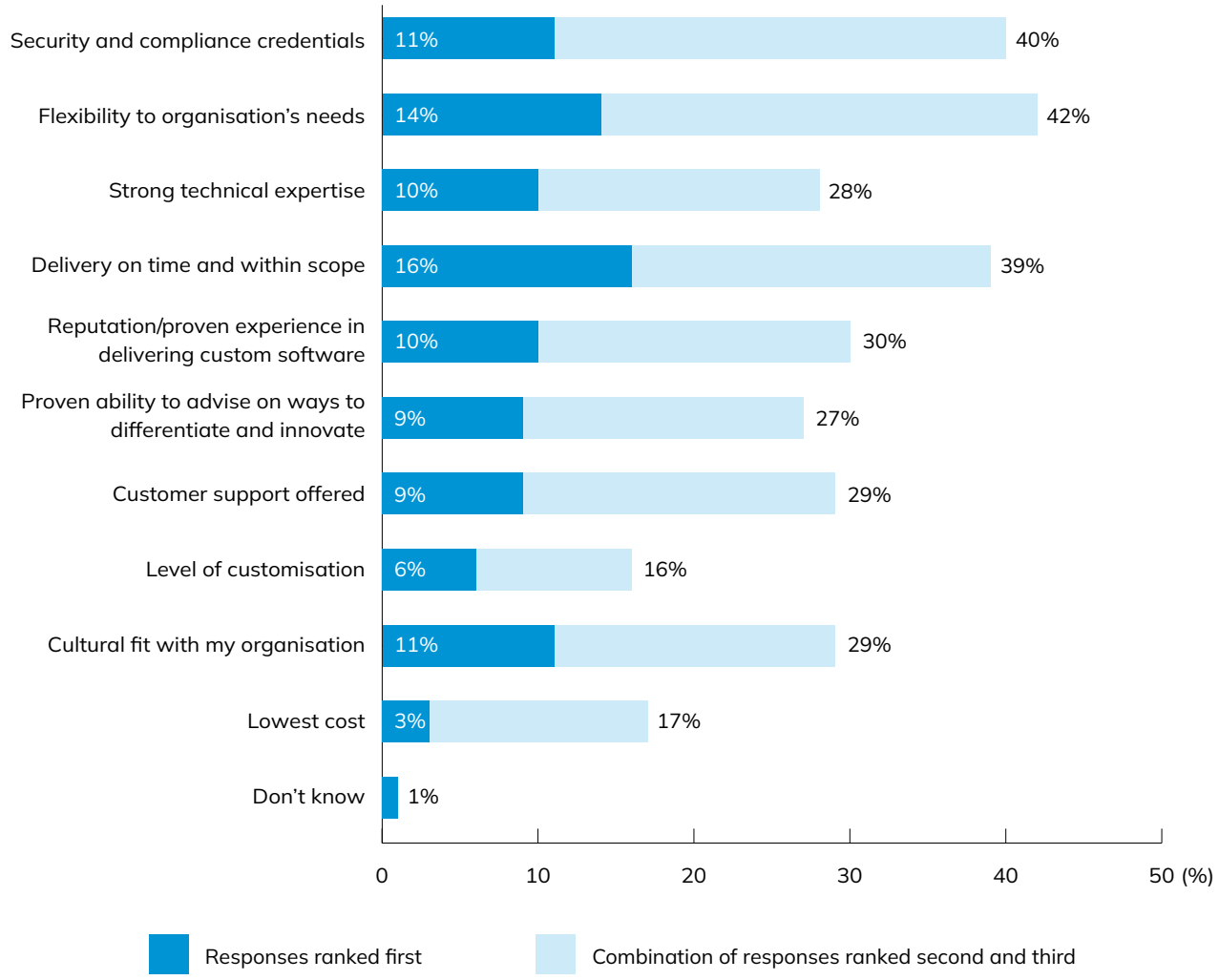
*Summary: **89%** of organisations faced challenges implementing or using custom software.*

How does your organisation justify ongoing investment in custom software development projects to senior leadership or the board?

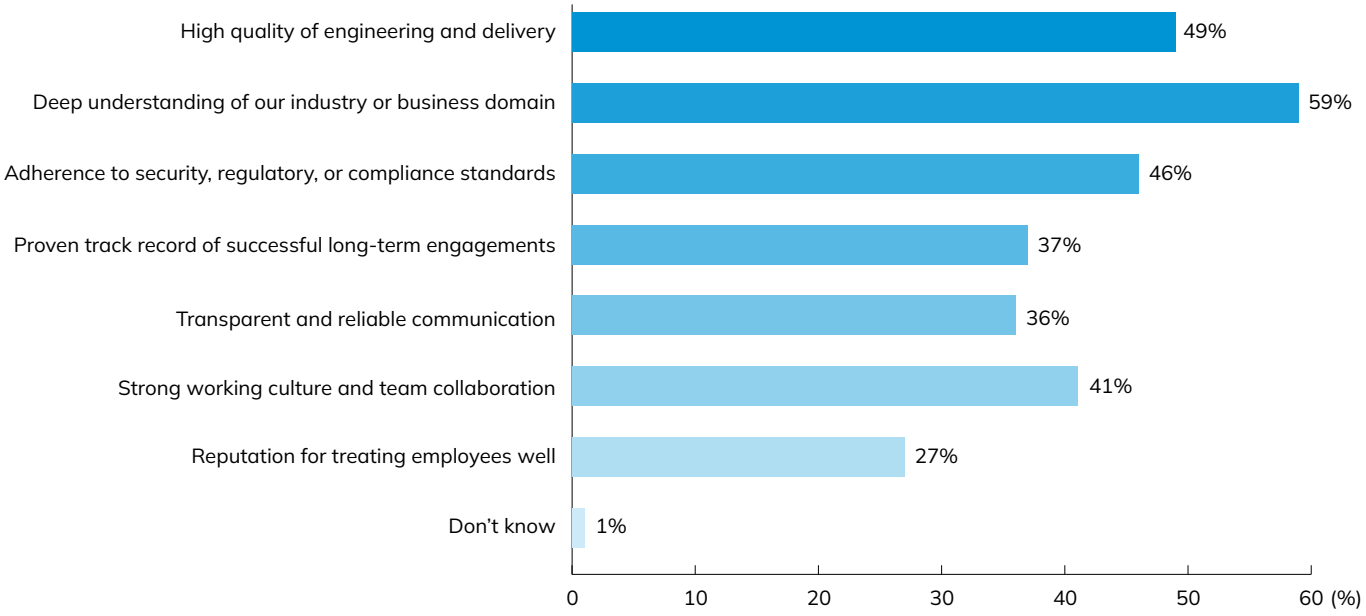


*Summary: **99%** of organisations need to justify ongoing investment as enhancements are required.*

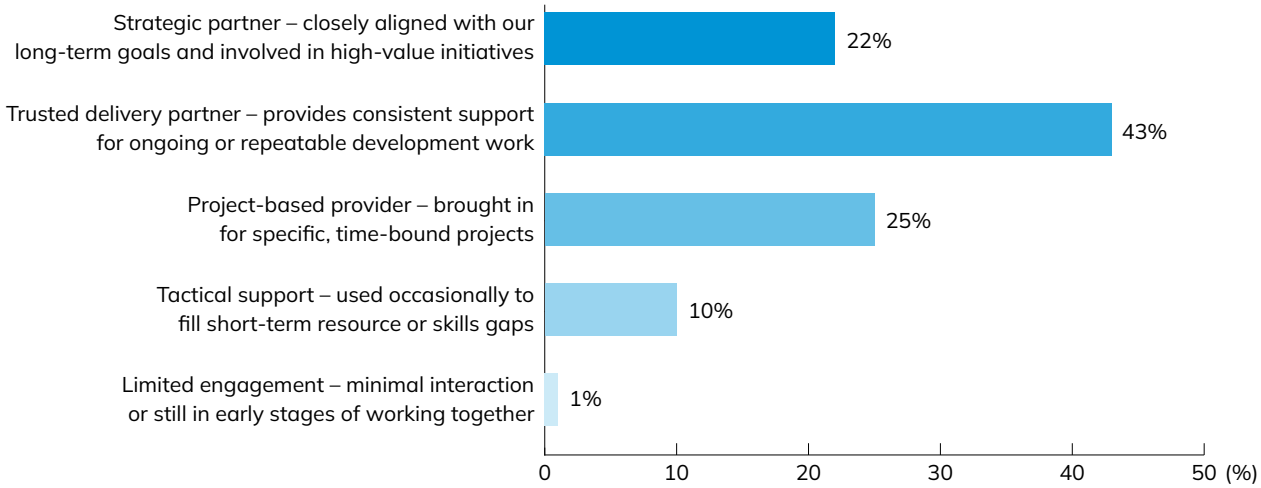
What capabilities are/would be most important when selecting or considering using a third-party custom software developer?



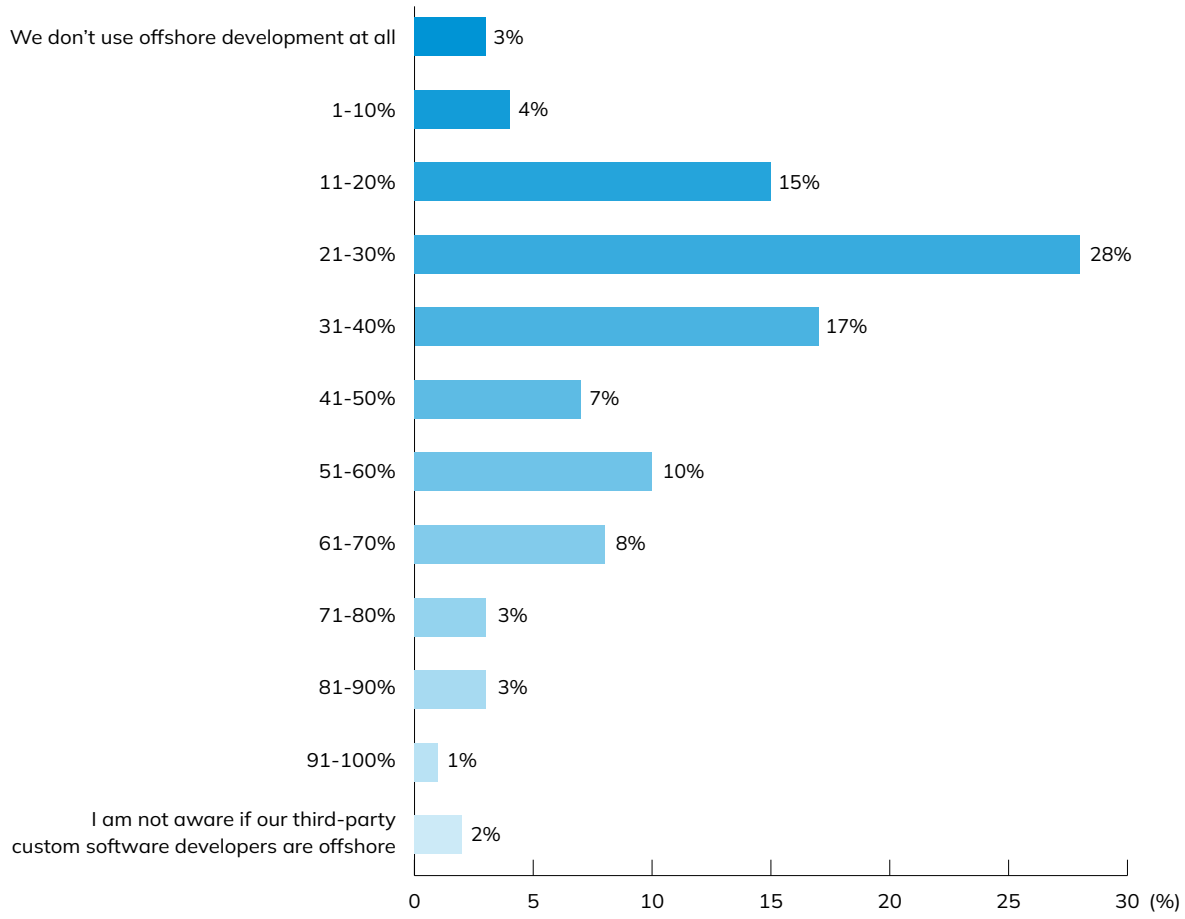
Besides cost, which are the most compelling purchase factors when selecting or considering a custom software services partner?



Which of the below best describes your organisation's current relationship with your third-party software development provider? *Base: Organisations who use third party providers.*



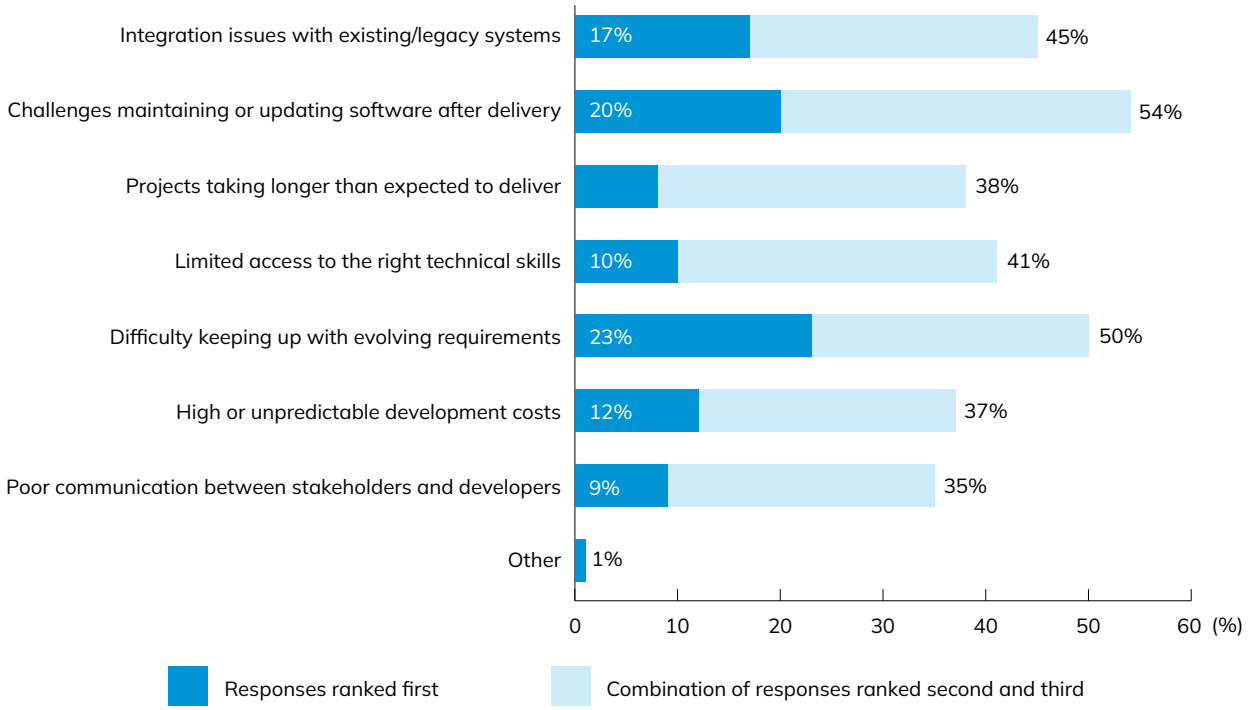
Approximately, what proportion of the custom software development your organisation carries out/contracts to third parties takes place offshore? *Base: Organisations who use third party providers, Average (%).*



Summary: ***95%*** *of organisations use offshore software development; Mean = 35*

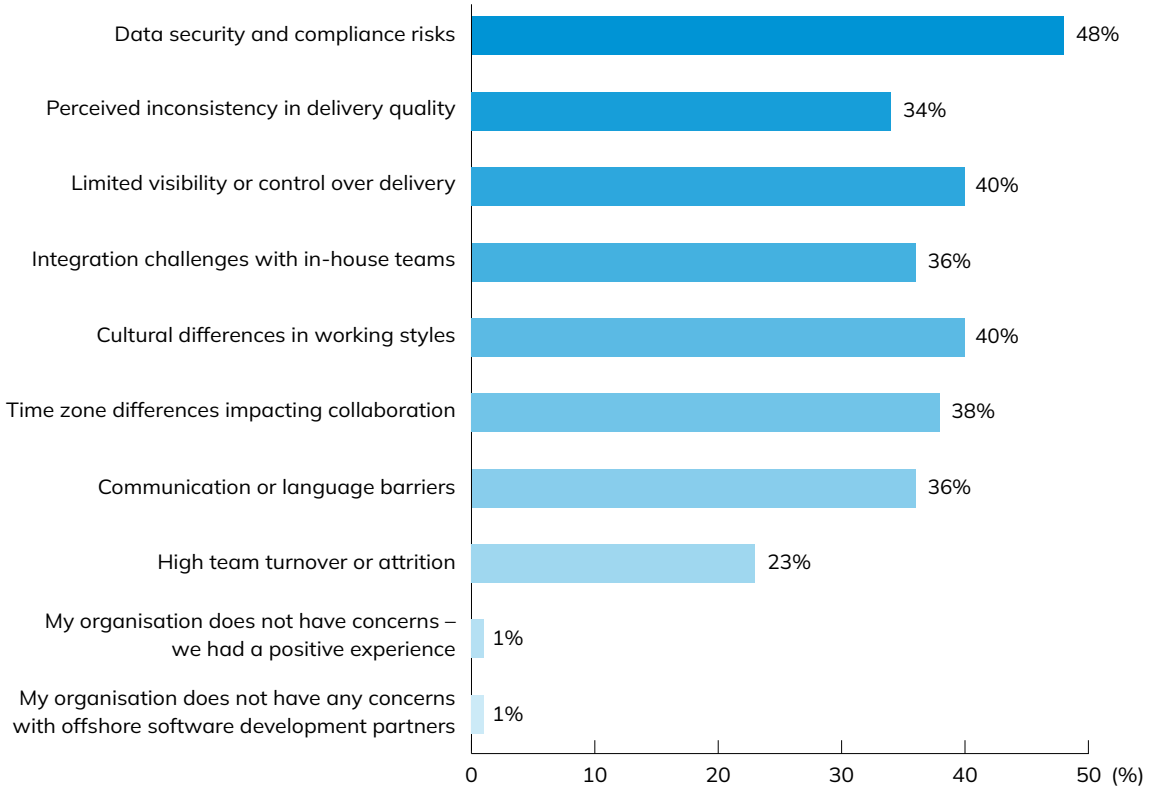
Average (%) excluding zero: *Mean = 37 (n = 109)*

What are the biggest challenges your organisation has experienced when working with custom software development companies? *Base: Organisations who use third party providers.*



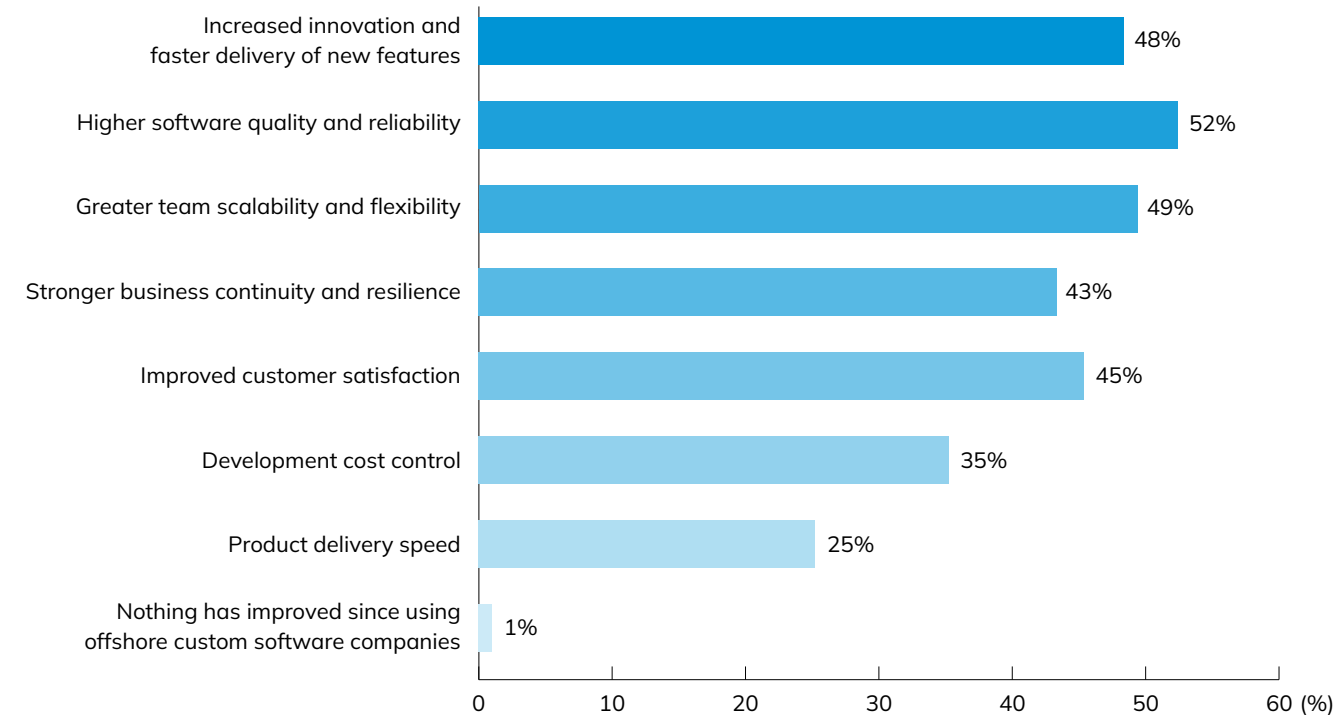
*Summary: **100%** of organisations face challenges working with custom software development companies.*

What concerns, if any, do you have when considering working with offshore software development partners? *Base: Organisations who use third party providers who are offshore.*



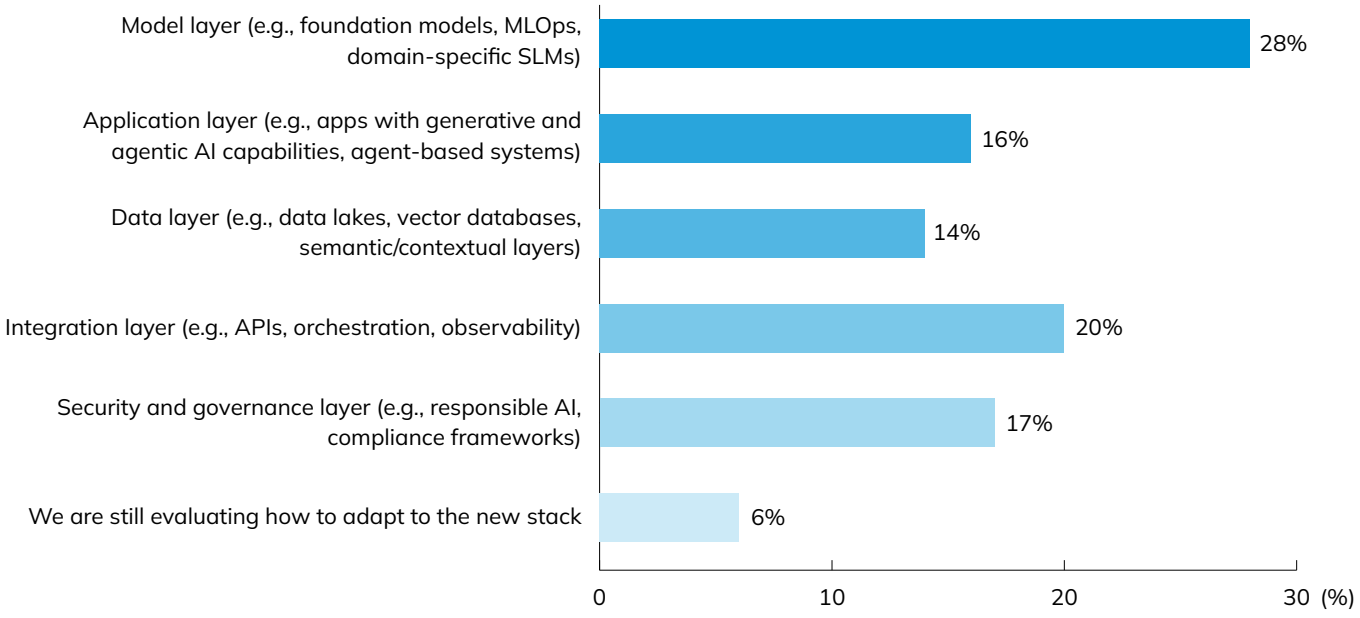
*Summary: **98%** of organisations have concerns with offshore development partners.*

Since partnering with an offshore development team for custom software, which of the following outcomes have improved at your organisation? *Base: Organisations who use third party providers that are offshore.*

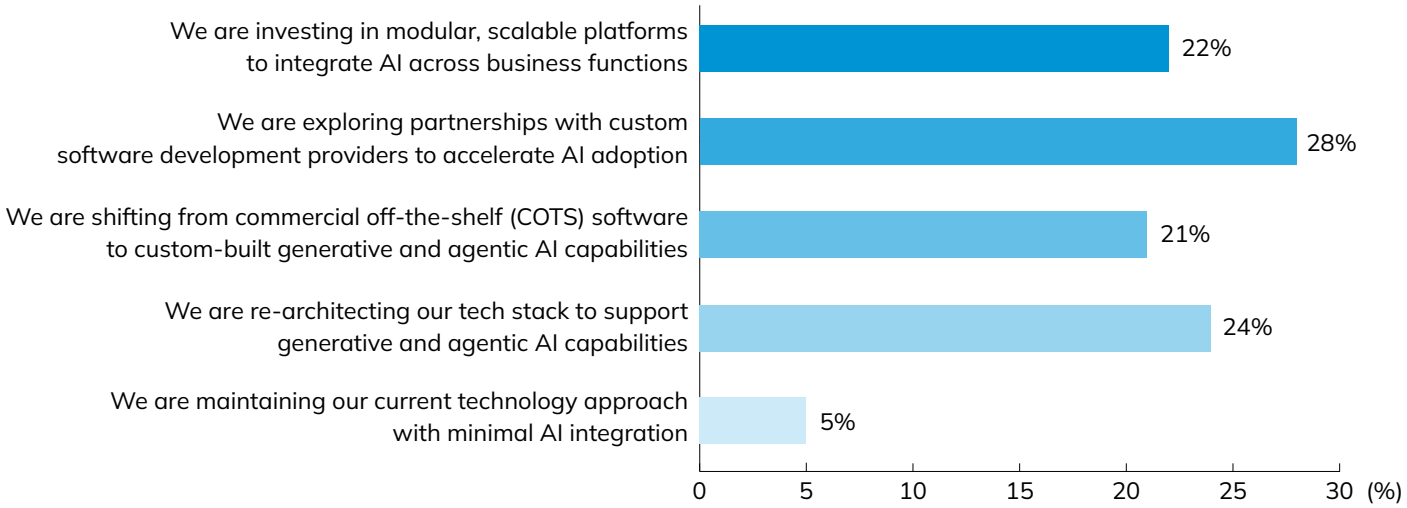


*Summary: **99%** of organisations have seen improvements since using offshore custom software development companies.*

Which layers of the evolving AI technology stack are you prioritising for investment or transformation in the next 12–24 months?



How is your organisation adapting its technology strategy in response to the rise of Generative and Agentic AI capabilities?



To what extent do you agree or disagree with the following?

	Strongly agree	Agree	Disagree	Strongly disagree	Don't know	Summary: Agree	Summary: Disagree
We are willing to pay more for a technology partner who provides greater long-term value and reduces the total cost of development or ownership	33%	66%	2%	0%	0%	**98%**	**2%**
AI is accelerating a shift from commercial off-the-shelf software to building custom software in enterprise technology strategy	38%	57%	3%	1%	1%	**95%**	**4%**
AI has made custom software development more accessible for organisations	40%	56%	3%	1%	1%	**96%**	**3%**
Current enterprise technology stacks are increasingly ill-equipped to meet the demands of an AI-first world	34%	48%	17%	1%	0%	**82%**	**18%**

Which of the following challenges has your organisation faced when adopting generative and agentic AI capabilities?

	Generative AI	Agentic AI	My organisation has not faced this yet	My organisation has not adopted these capabilities	Don't know
Lack of internal expertise in AI architecture and engineering	37%	42%	24%	1%	2%
Difficulty integrating AI with legacy systems	42%	36%	22%	1%	3%
Uncertainty around data governance and compliance	41%	39%	23%	1%	1%
Limited access to scalable infrastructure or MLOps capabilities	33%	41%	27%	1%	3%
Budget constraints or unclear ROI	44%	41%	21%	1%	1%
Need for custom development partners with AI capabilities	41%	36%	26%	1%	1%

How positive an impact, if at all, do you expect the following key technology trends to have on your organisation's custom software development? *Average*

	Negative impact	1	2	3	4	5	6	7	8	9	10	Don't know/Not aware of this	Summary: Low impact	Summary: Moderate impact	Summary: High impact
Increased use of artificial intelligence	1%	2%	3%	1%	4%	5%	9%	12%	27%	22%	14%	0%	**10%**	**27%**	**62%**
AI governance	1%	0%	3%	1%	5%	3%	9%	25%	20%	22%	11%	1%	**9%**	**37%**	**53%**
Hyper automation	0%	2%	2%	3%	2%	7%	6%	19%	24%	14%	19%	3%	**8%**	**32%**	**57%**
Low code/no code platforms	0%	0%	2%	4%	3%	7%	9%	15%	20%	34%	6%	1%	**9%**	**30%**	**60%**
Data driven decisions	0%	2%	0%	3%	3%	3%	4%	20%	27%	23%	16%	0%	**8%**	**27%**	**66%**
Edge computing	0%	0%	0%	3%	3%	4%	4%	26%	26%	22%	9%	3%	**7%**	**34%**	**56%**
Sustainable practices	0%	1%	1%	3%	3%	6%	9%	13%	25%	20%	19%	2%	**7%**	**28%**	**64%**
Cloud engineering	0%	0%	2%	1%	3%	4%	8%	16%	25%	29%	11%	0%	**6%**	**28%**	**66%**
Platform engineering	0%	1%	1%	2%	3%	3%	8%	16%	27%	23%	16%	1%	**6%**	**28%**	**66%**
Product engineering	0%	0%	0%	3%	5%	5%	5%	12%	29%	28%	11%	2%	**8%**	**22%**	**68%**

When is your organisation likely to begin adopting and/ or implementing these trends into its custom software development business model? *Average (months)*

	Already adopted	Next 6 months	1 year	2 years	3 years	4 years	5 years	6 years or more	No plans to implement	Don't know	Summary: Short term	Summary: Medium term	Summary: Long term
Increased use of artificial intelligence	41%	26%	21%	6%	3%	1%	1%	0%	0%	2%	**88%**	**9%**	**1%**
AI governance	22%	41%	18%	5%	9%	3%	1%	0%	1%	1%	**81%**	**16%**	**1%**
Hyper automation	22%	33%	22%	7%	8%	2%	1%	0%	3%	3%	**77%**	**16%**	**1%**
Low code/no code platforms	21%	22%	16%	25%	8%	4%	1%	0%	1%	2%	**59%**	**37%**	**1%**
Data driven decisions	29%	22%	20%	9%	15%	4%	0%	0%	0%	1%	**71%**	**28%**	**0%**
Edge computing	20%	25%	21%	10%	12%	7%	2%	1%	0%	3%	**66%**	**29%**	**3%**
Sustainable practices	33%	20%	19%	11%	8%	5%	1%	2%	0%	2%	**72%**	**24%**	**3%**
Cloud engineering	22%	22%	18%	15%	9%	4%	3%	7%	0%	1%	**61%**	**28%**	**10%**
Platform engineering	19%	29%	17%	14%	8%	5%	5%	1%	0%	2%	**66%**	**27%**	**6%**
Product engineering	28%	16%	21%	13%	13%	5%	2%	1%	1%	2%	**64%**	**31%**	**3%**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