

2018 Strategic Technologies: Data Table

Technologies

This data table is provided as a summary of the data collected on 73 strategic technologies as part of the EDUCAUSE 2018 IT Issues survey. Technologies are what IT organizations *do*. Mature, commonly deployed technologies (such as financial information systems or networks) may be among the most mission-critical technologies, but they are generally more likely to receive operational than strategic attention. Strategic technologies, by contrast, are the relatively new technologies institutions will be spending the most time implementing, planning for, and tracking in 2018. None of the 73 technologies analyzed in this research is currently in place in more than 30% of institutions.

The 2018 IT Issues survey (in which these strategic techs were included) was distributed to 11,797 EDUCAUSE members in the summer of 2017, with three reminders sent; 438 (4%) completed the survey. Where multiple representatives from a single institution completed the survey, we selected the response from the representative in the highest-ranking position. To minimize “don’t know” responses, respondents were presented technologies according to their areas of expertise based on current roles in higher education IT. However, each respondent was given the option to respond to all 73 technologies. As a result, the number of respondents rating individual technologies ranged from 248 to 298.

Attention scores are weighted averages of responses to each strategic technology. Weighting highlights responses indicative of higher levels of activity (expanding deployment; planning, piloting, initial deployment; and tracking) over responses that suggest little or no activity of that kind (institution-wide deployment, no deployment, and don’t know). For context, attention scores for the 73 strategic technologies of 2018 range from 0.32 (cryptocurrencies) to 3.25 for our top strategic technology, uses of APIs. The cutoff for the top 10 strategic technologies of 2018 is 2.49 (a tie between IT asset management tools and student success planning systems). The middle 50% of technologies have attention scores between 1.37 and 2.31. The median attention score, 1.91, is shared by three technologies: adaptive learning, augmented and virtual reality for teaching and learning, and games and gamification.

The full survey instrument can be consulted here:

<https://library.educause.edu/~media/files/library/2017/8/2018top10itissuestechnologiesurvey.pdf>

Definitions of these strategic technologies may be consulted here:

<https://www.educause.edu/research-and-publications/research/top-10-it-issues-technologies-and-trends/technologies-survey-glossary>

For more information about this study, including the associated research report(s), slide deck(s), and infographic(s), visit the research hub at

<https://library.educause.edu/resources/2018/1/higher-educations-top-10-strategic-technologies-and-trends-for-2018>

Items with an asterisk (*) are part of the 2018 top 10 strategic technologies (which includes 11 items because of a tie).

Technology	Don't know what this technology is	No deployment	Tracking	Planning, piloting, initial deployment	Expanding deployment	Institution-wide deployment	Attention score (US respondents)
Active learning classrooms*	5%	7%	12%	25%	39%	12%	2.95
Adaptive learning	14%	19%	31%	23%	12%	1%	1.91
Application performance monitoring	7%	17%	24%	24%	21%	7%	2.25
Applications of analytics to security (such as user behavioral analytics)	8%	31%	30%	20%	8%	2%	1.62
Augmented and virtual reality for teaching and learning	8%	23%	29%	30%	9%	1%	1.91
Blended data center (on premises and cloud based)*	3%	8%	22%	27%	27%	13%	2.60
Blockchain	16%	53%	28%	3%	0%	0%	0.66
Cloud access security broker	13%	38%	30%	12%	6%	3%	1.22
Cloud monitoring platform to track distributed infrastructure apps, tools, and services (e.g., Datadog)	11%	41%	28%	12%	5%	2%	1.18
Cloud-based HPC	8%	48%	20%	18%	5%	2%	1.18
Cloud-based identity services (e.g., Duo, OneLogin, and PortalGuard)	1%	18%	22%	27%	20%	12%	2.26
Cloud-based security services (e.g., Duo, Qualys ThreatPROTECT, and cloud-based e-mail security solutions)	4%	15%	20%	25%	23%	12%	2.31
Content-aware data loss prevention	9%	24%	34%	19%	9%	6%	1.68
Courseware	9%	18%	21%	21%	19%	13%	1.99
Cryptocurrencies (e.g., Bitcoin)	14%	71%	14%	1%	0%	0%	0.32
Data center capacity planning and management tools	7%	26%	22%	21%	17%	7%	1.92
Database encryption*	4%	11%	20%	23%	29%	12%	2.55
DDoS prevention products and services	6%	10%	21%	23%	24%	16%	2.32

Technology	Don't know what this technology is	No deployment	Tracking	Planning, piloting, initial deployment	Expanding deployment	Institution-wide deployment	Attention score (US respondents)
Development tools to support multiple key platforms	6%	33%	21%	16%	19%	4%	1.83
Digital microcredentials (including badging)	9%	32%	32%	20%	5%	1%	1.49
DNS security	9%	12%	21%	22%	17%	18%	1.92
End-to-end communications encryption	4%	16%	33%	19%	18%	8%	2.16
Enterprise GRC systems	28%	37%	20%	9%	4%	2%	0.88
E-signature technologies (e.g., DocuSign, Adobe Sign, and SignNow)	2%	19%	25%	31%	18%	6%	2.32
Ethernet fabrics	26%	29%	24%	9%	8%	4%	1.14
Federated identity technologies	3%	11%	16%	26%	25%	18%	2.36
Flexible interactive platforms for descriptive and predictive analytics of institutional data	11%	21%	28%	27%	11%	3%	1.94
Games and gamification	10%	23%	30%	25%	11%	0%	1.91
High-precision location-sensing technologies	7%	46%	30%	13%	4%	0%	1.19
Incorporation of mobile devices in teaching and learning*	4%	6%	18%	32%	32%	8%	2.90
Institutional repositories for research data	4%	35%	16%	19%	20%	6%	1.86
Institutional support for public-cloud storage (e.g., Box)	3%	10%	17%	19%	23%	28%	2.07
Institutional support for speech recognition	10%	46%	24%	14%	5%	1%	1.13
Integration platform as a service	10%	28%	37%	15%	8%	2%	1.59
Integration/uses of voice-user interfaces	11%	49%	21%	13%	5%	1%	1.06
IPv6	7%	25%	28%	20%	11%	9%	1.70
IT accessibility assessment tools	6%	16%	24%	25%	24%	6%	2.40
IT asset management tools (e.g., CMDB)*	4%	14%	23%	32%	21%	5%	2.49
Life-cycle contract management	9%	27%	25%	23%	13%	4%	1.82
Location-based computing	12%	48%	27%	10%	3%	0%	1.00
Massively scalable database architectures and software	11%	49%	24%	11%	5%	1%	1.04
Mobile app development	1%	24%	19%	20%	25%	11%	2.25
Mobile apps for enterprise applications*	1%	9%	18%	24%	34%	13%	2.78
Mobile apps for institutional BI/analytics	7%	39%	30%	16%	7%	0%	1.43
Mobile device management	1%	19%	20%	26%	24%	10%	2.36
Next-generation firewalls	4%	6%	15%	24%	22%	28%	2.14
Next-generation LMS/digital learning environment	3%	10%	36%	26%	13%	12%	2.15
Next-generation Wi-Fi (e.g., 802.11ah, HaLow)	7%	13%	42%	16%	15%	7%	2.07
Open educational resources	10%	13%	23%	28%	22%	4%	2.40
Predictive analytics for institutional performance	7%	17%	26%	33%	13%	5%	2.15
Predictive analytics for student success (institutional level)*	4%	10%	21%	35%	22%	7%	2.57
Predictive learning analytics (course level)	8%	25%	31%	23%	12%	2%	1.89

Technology	Don't know what this technology is	No deployment	Tracking	Planning, piloting, initial deployment	Expanding deployment	Institution-wide deployment	Attention score (US respondents)
Privacy-enhancing technologies (e.g., limited-disclosure technologies, anonymous credentials)	14%	37%	32%	9%	7%	2%	1.26
Private-cloud computing	7%	26%	24%	19%	16%	9%	1.83
Remote proctoring services	10%	32%	17%	23%	11%	7%	1.59
Science DMZ	18%	45%	12%	12%	7%	6%	0.94
Service-level reporting tools	6%	23%	20%	25%	20%	7%	2.12
SIEM (context-aware security)	14%	21%	25%	19%	13%	9%	1.71
Software-defined networks	11%	26%	34%	20%	5%	3%	1.57
Student success planning systems*	4%	10%	22%	28%	25%	12%	2.49
Support for use of personal cloud services	10%	40%	22%	13%	10%	4%	1.35
Talent/workforce analytics	10%	38%	27%	17%	7%	2%	1.37
Technologies for improving analysis of student data*	5%	9%	21%	32%	27%	6%	2.73
Technologies for offering self-service resources that reduce advisor workloads	9%	14%	20%	27%	25%	5%	2.45
Technologies for planning and mapping student educational plans*	5%	10%	20%	33%	24%	7%	2.61
Text/content analytics	14%	40%	27%	14%	5%	1%	1.18
Threat intelligence technologies	8%	13%	28%	20%	22%	10%	2.23
Tools to support cross-institutional and international collaborations	6%	29%	18%	17%	22%	7%	2.01
Tools to support cross-institutional and international research data-sharing	7%	42%	16%	20%	12%	4%	1.52
Uses of APIs*	2%	5%	14%	23%	45%	10%	3.25
Uses of the Internet of Things for campus management	11%	40%	26%	17%	7%	0%	1.36
Uses of the Internet of Things for research	7%	45%	28%	15%	5%	0%	1.28
Uses of the Internet of Things for teaching and learning	12%	34%	29%	20%	5%	0%	1.43