Embracing innovation
From emerging technologies to campus improvements, institutions seek creative ways to overcome challenges, old and new.
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David Gagnon, who is based in KPMG’s Boston office, serves as National Audit Leader for KPMG’s HERON practice. He has 25 years of experience serving private and public higher education clients and specializes in applicable FASB and GASB reporting standards and grant and contract compliance. He is coauthor of KPMG’s annual On the Higher Education Audit Committee Agenda and a contributor to Strategic Financial Analysis in Higher Education and other KPMG publications. Mr. Gagnon is a frequent speaker at firm- and client-sponsored events, and internal and client-focused training sessions, including the Eastern Association of College and University Business Officers (EACUBO), and other conferences covering a variety of emerging industry issues and standards. He has also served public and private companies, assisting with public equity and debt offerings and audits of internal control, as well as entities in the public pension industry.

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Looking to innovation for better education

Higher education and innovation: the two naturally go together. Colleges and universities are centers of new thinking in the traditional academic disciplines.

But when it comes to enhancing their operations, many schools today are looking to adapt innovations used by businesses to address their perennial and emerging challenges. These innovations are not without risks, and administrators will need to plan strategies carefully to maximize their benefits.

KPMG LLP’s (KPMG) 2015–2016 Higher Education Industry Outlook Survey sought the opinions of not-for-profit college and university leaders from across the country. The overall message is that administrators are seeking new strategies to address old and new challenges.

One clear emerging trend is the increasing focus schools are placing on adopting new technologies. In particular, schools are beginning to use data and analytics (D&A) to enhance areas such as enrollment, budgeting, and fundraising. But many survey respondents indicated that their schools do not have the internal resources to best leverage D&A to achieve maximum benefit.

Likewise, cloud technology is becoming attractive to administrators as a cost-effective way of implementing business-function solutions, such as enterprise resource planning (ERP). Nevertheless, many institutions, while acknowledging a need to increase their institution’s ERP capacity, are delaying upgrades due to budget or other constraints. And while administrators are generally satisfied with their institution’s current level of cybersecurity, the rapidly growing volume and sophistication of cyber threats will require institutions to continually reevaluate and strengthen their processes to manage cyber risks.

Additionally, administrators are grappling with the problem of maintaining a balance between managing costs and raising tuition, all while facing limited federal and state funding. To close the gap, institutions are considering new and unconventional revenue streams.

Finally, administrators are looking at new ways to enhance their campuses to build their institution’s brand and enhance the “college experience” to meet the expectations of today’s students—innovating with regard to both the infrastructure itself and ways to secure funding. These plans may include embarking on ambitious capital projects, such as new libraries, athletic facilities, and dormitories—all outfitted with the latest amenities and “green” technologies. But with dollars scarce, new project costs can be an obstacle. New financing methods, such as public-private partnerships, may be the answer for some.

For centuries, colleges and universities have been the place for new ideas and creative thinking in the sciences and the arts. As these institutions grow and become more complex, it is clear that adopting innovation in their business operations will be essential for their continued success.
An overview: Keeping pace with technology

Colleges and universities have been engaging technology for years. Like other large organizations, they have implemented ERP systems to help manage their administrative and academic functions.

But over the past few decades, technology has brought a revolution to the classroom and campus life, as well as the administration office. The challenge now is keeping up with an ever-accelerating pace of innovation. First students had the PC, then the laptop; now they tote their smartphones and tablets. A 2014 EDUCAUSE Center for Analysis and Research study found smartphone ownership at 86 percent and tablet ownership at 47 percent. And the majority of these students indicated they were using these devices for academics. This rise of smartphone and tablet use is already challenging schools to adapt to a mobile-friendly environment, not only for student life but for academics as well.¹

D&A is another emerging tool that is dramatically working its way into the fabric of higher education, again both administratively and academically. Administrators can use D&A to support budgeting, enrollment, and fundraising. For their part, professors can employ D&A techniques to measure student performance as a way to assess curriculum effectiveness and provide remedial assistance to students.

Similarly, cloud technology can offer administrators benefits in terms of cost savings, while in the classroom provide students with easier access to a wider range of educational resources.

This increased reliance on technology brings its own risks, and given the amount of sensitive data schools collect and store, colleges and universities need to be ever vigilant about cybersecurity.

Our survey found that the challenges presented by technology are of concern among respondents, who recognized the need for administrators to expand their familiarity with technology. According to the survey, 62 percent of respondents said that the resources and skills of board members would need to change to a “very large extent” or “a large extent” over the next few years in order to appropriately govern the technology agenda.

The following section will take a closer look at how colleges and universities are responding to these new technologies.

¹http://er.educause.edu/articles/2015/6/six-trajectories-for-digital-technology-in-higher-education
**Technological change and innovation are major challenges for higher education**

Q: Which of the following apply to your institution?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using data for forecasting and predictive analytics</td>
<td>41%</td>
</tr>
<tr>
<td>Investing in a major Enterprise Resource Planning system for purposes of better managing student information and business support functions</td>
<td>39%</td>
</tr>
<tr>
<td>Investing in better information assurance/data integrity initiatives</td>
<td>38%</td>
</tr>
<tr>
<td>Utilizing technology to optimize financial reporting accuracy and timeliness</td>
<td>37%</td>
</tr>
<tr>
<td>Leveraging cloud-based solutions</td>
<td>32%</td>
</tr>
<tr>
<td>Expanding the focus on disaster recovery and business continuity planning</td>
<td>29%</td>
</tr>
</tbody>
</table>

Multiple responses allowed
Changes needed in resources and skills of board members in order to appropriately govern the technology agenda

Q: Given institutions’ significant investments in technology, to what extent do the resources and skills of board members need to change over the next few years in order to appropriately govern the technology agenda?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A very large extent</td>
<td>26%</td>
</tr>
<tr>
<td>A large extent</td>
<td>36%</td>
</tr>
<tr>
<td>A moderate extent</td>
<td>28%</td>
</tr>
<tr>
<td>A small extent</td>
<td>5%</td>
</tr>
<tr>
<td>Not at all</td>
<td>5%</td>
</tr>
</tbody>
</table>
The analysis and interpretation of data is becoming an essential function for businesses, large and small. The near universal use of the Internet, social media, and online commerce has created mountains of information that organizations can use to better understand their finances, customers, markets, and competitors.²

For their part, college and university administrators are recognizing the great value D&A can provide in helping them support their academic mission. The issue is knowing how to use D&A to realize that value.

The survey revealed that colleges and universities are beginning to explore D&A, but many respondents are concerned about the quality of the data they collect. Respondents also acknowledged that their current D&A programs are not providing adequate insights. And in some cases, those who believe they have reliable data are not sure how to analyze it effectively.

In terms of applying D&A techniques, more than half of survey respondents said their organization uses D&A to help support decision making in budgeting and enrollment, while 42 percent cited fundraising. Interestingly, public institutions rank enrollment even higher, at 64 percent, compared to 37 percent for privates. To that point, many public institutions are larger and have mandates around enrollment demographics, and the disparity in responses suggests that publics are using D&A as a way to better understand their prospective students.

Among schools already using D&A, respondents cited a number of issues that hindered their gaining the most value from the information collected. Only 29 percent said they were using D&A for strategic and operating decisions. A little more than a third of respondents said that they had sufficient access to data, but do not have sufficient resources within the institution and are using outside vendors and partners to conduct analysis for them. The response was even higher among private institutions (51 percent), which may have more funds to employ third parties.

Additionally, when asked about the top challenges their institution faced regarding D&A, 60 percent said effectively using data residing across different functions for more effective decision making, 40 percent cited data quality, while 39 percent said adopting new or more advanced analytical techniques in operations or decision making.

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D&A can provide a number of benefits to colleges and universities. It can help assess risks and focus resources; provide greater insights into student demographics and graduates’ success for use in recruitment and third-party ratings; provide information about operational expenses for more accurate budgeting and forecasting; and be used in fundraising campaigns to create more precise lists of receptive donors. D&A can also help improve the effectiveness of professors by analyzing student performance and using that data to create more effective course and teaching methods.²

Given the benefits of D&A, institutions will need to step up their games and begin leveraging more sophisticated D&A techniques. In doing so, administrators should keep in mind that capturing value from D&A initiatives requires that they first understand what the school wants to achieve and then align the D&A tools, capabilities, and data to support that goal. In other words, begin with the end in mind: have a clear vision of what you want to get out of your D&A program and only then go looking for the data.³

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Data and analytics

Statements describing institution with respect to data and analytics.

Q: Which of the following statements best describes your institution regarding data and analytics?

- 36%: We have sufficient access to data, but we do not have sufficient analytical resources within the institution and are using outside vendors and partners to conduct analysis for us.
- 22%: We have sufficient access to data and resources to analyze and use it for strategic and operating decisions.
- 13%: We have sufficient access to data, but we are not using it for decision making as effectively as we could.
- 29%: Other.
Data and analytics

Areas to help support strategic decision making using data and analytics

Q: In what areas does your organization use data and analytics to help support strategic decision making?

- **Budgeting**: 55%
- **Enrollment**: 53%
- **Fundraising**: 42%
- **Supply chain optimization**: 33%

Multiple responses allowed
Data and analytics

**Top challenges regarding data and analytics**

Q: What are the top challenges your institution faces regarding data and analytics?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectively using data residing across different functions for effective decision making</td>
<td>60%</td>
</tr>
<tr>
<td>Data quality</td>
<td>40%</td>
</tr>
<tr>
<td>Adopting new or more advanced analytics techniques in operations or decision making</td>
<td>39%</td>
</tr>
<tr>
<td>Dealing with new types of data</td>
<td>35%</td>
</tr>
<tr>
<td>New data isn’t providing additional insight for decision making</td>
<td>34%</td>
</tr>
<tr>
<td>Information overload makes it difficult to prioritize data to use in decision making</td>
<td>33%</td>
</tr>
<tr>
<td>Data is so overwhelming that it slows down decision making</td>
<td>32%</td>
</tr>
<tr>
<td>Aggregation of data in a central data warehouse</td>
<td>24%</td>
</tr>
</tbody>
</table>

Multiple responses allowed
Another emerging technology that has taken hold of the business world is the cloud, which offers technology solutions with greater flexibility and often lower costs to the organization. Following suit, colleges and universities are beginning to embrace the cloud as a means of expanding their technology options. In fact, 32 percent of respondents said that leveraging cloud-based solutions was a major challenge for higher education.

One early caveat about the cloud was security. The idea of uploading sensitive information onto a third-party server was a cause of unease for many in the early days of cloud offerings. However, many cloud-solution providers have taken wide-ranging steps in an effort to protect the data entrusted to them from unauthorized or unlawful access. These steps appear to have reassured school administrators, with 56 percent of respondents saying they were comfortable with cloud risk-management and data-protection protocols.
Cloud has become a critical technology and will inevitably play a growing role in the administrative operations of colleges and universities, as well as in the delivery of academic instruction. Cloud providers can achieve economies of scale in developing powerful, highly functional, menu-driven platforms that may be cost-prohibitive for some institutions to create themselves, as well as the ability to make timely adjustments and enhancements based on feedback from multiple users.

When it comes to security, the survey responses show that administrators are comfortable using the cloud and data-protection assurance provided by cloud providers. The comfort level appears to be even higher among private institutions, which may be attributable to their earlier entry into cloud-based solutions. In addition, the type of cloud model contemplated—for example Software as a Service (SaaS) versus Infrastructure as a Service (IaaS)—may influence confidence.

When it comes to cloud solutions, our experience suggests that SaaS has a number of advantages: reduced installation and configuration time; lower license and maintenance costs; scalability and integration; lower-cost and easier-to-install solution upgrades and new releases; and the ability to conduct proof of concepts and test the software functionality in advance.

In summary, industry attitude regarding the cloud is evolving positively as it plays an increasingly important role in innovation strategies and creating greater efficiencies for operations and instructional delivery.
Cloud

Level of comfort with related risk management and data protection attributes - cloud

Q: If you are leveraging cloud-based technology solutions, how comfortable are you with related risk management and data protection attributes?

- Very comfortable with the residual risk exposure
- Comfortable with the residual risk exposure
- Somewhat concerned about the risk exposure
- Very concerned about the risk exposure
- Don’t know/not applicable
Cybersecurity: Reducing vulnerabilities

Colleges and universities are an inviting target for cyber criminals. Some may be looking for intellectual property, but most are seeking addresses, phone numbers, transcripts, and social security numbers, which can be more valuable than credit card numbers.\(^5\)

Although respondents generally felt comfortable about the security around cloud (as outlined in the previous section), they did express an awareness of cyber risks in general, with 47 percent saying cyber risk was the emerging trend affecting their institution the most.\(^6\)

This concern is not without foundation. A number of well-known schools have suffered recent cybersecurity breaches.

Additionally, respondents were roughly divided over their organizations’ preparedness to respond to a security breach within the next few years, with 36 percent saying they were very prepared, 45 percent saying they were somewhat prepared, and 12 percent saying they were not prepared.

With regard to protecting against a security breach, the survey also suggested that schools may need to enhance the policies they currently have in place. Only 38 percent said they had established and disseminated a written information and security policy; 36 percent indicated they had established mandatory security awareness training and education, and 35 percent said they increased the role of governance in technology security. Moreover, only 28 percent said their institutions have purchased cybersecurity insurance, and a quarter of respondents indicated their institutions have created the position of information security officer.


\(^6\) [http://www.pri.org/stories/2015-08-06/cyber-ed-how-higher-education-re-evaluating-growing-threat](http://www.pri.org/stories/2015-08-06/cyber-ed-how-higher-education-re-evaluating-growing-threat)
The survey responses show that colleges and universities have implemented a number of activities around managing security, including policies, training, or increasing the role of governance. Yet these percentages are relatively low and indicate that higher education as a whole—which includes many relatively small organizations—is still behind the corporate world when it comes to cybersecurity measures. For instance, while some schools have established the position of information security officer (ISO), the position of chief information security officer (CISO) is much more prevalent in for-profit entities. Having the position of CISO also implies that a security organization has been funded, which is more likely at the very largest institutions. In any case, leading practices suggest that the ISO/CISO is a qualified security professional reporting to a C-level manager and not merely a staff network-technology professional anointed with a title.

With IT budgets remaining flat for the past decade, cybersecurity funding for new, innovative technologies still lags other priorities such as the support and maintenance of existing environments. Consequently, cybersecurity has sometimes been considered only in reaction to an event, rather than as a proactive strategy. That is why creating a written policy is a sound first step, but schools need to do more. Indeed, institutions can reduce cyber risks by building up capabilities in three critical areas: prevention, detection, and response.

- Prevention begins with governance and organization. It is about installing fundamental measures, including placing responsibility for dealing with cyber crime within the organization and developing awareness training for key staff. Enhancing security-awareness education is a first line of defense, particularly against social engineering and phishing attacks. Two-factor authentication solutions are also increasingly being deployed by colleges and universities to mitigate the risk of unauthorized system access.

- Through monitoring of critical events and incidents, an organization can strengthen its technological detection measures. Monitoring and data mining together form an excellent instrument to detect strange patterns in data traffic, to find the location on which the attacks focus, and to observe system performance.

- Response refers to activating a well-rehearsed plan as soon as evidence of a possible attack occurs. During an attack, the organization should be able to directly deactivate all technology affected. When developing a response and recovery plan, similar to many other risk mitigation strategies, an organization should perceive cybersecurity as a continuous process and not as a one-off solution.

7 http://www.educause.edu/visuals/it-issues/trends/index.html
Cybersecurity

**Prepared for security breach within the next few years**

Q: Considering your institution’s current IT security structure and in light of recent security related issues in higher education institutions, how prepared is your institution for a major security breach within the next few years?

- Very prepared: 36%
- Somewhat prepared: 12%
- Not prepared: 7%
- Don’t know/not applicable: 45%
Cybersecurity

Steps to safeguard against security breaches

Q: Higher education has traditionally been more open to sharing information than some other industries. However, recent threats to data from cyber intrusion, data theft, or data misuse have caused colleges and universities to reconsider some access levels. What steps have you taken to safeguard against security breaches?

<table>
<thead>
<tr>
<th>Step</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Established and disseminated a written information security policy</td>
<td>38%</td>
</tr>
<tr>
<td>Established mandatory security awareness training and education</td>
<td>36%</td>
</tr>
<tr>
<td>Increased the role of governance in technology security</td>
<td>35%</td>
</tr>
<tr>
<td>Inventoried sensitive data in key systems</td>
<td>32%</td>
</tr>
<tr>
<td>Purchased cybersecurity insurance</td>
<td>28%</td>
</tr>
<tr>
<td>Instituted the position of information security officer</td>
<td>25%</td>
</tr>
</tbody>
</table>

Multiple responses allowed
While survey respondents indicated challenges with new technologies such as D&A and the cloud, they also expressed concerns with legacy technology.

Virtually all large organizations today employ an ERP system to help manage their basic business functions, such as payroll, accounting, and human resources. But as the survey shows, at some colleges and universities, ERP technology is quickly becoming outdated. Among respondents, 46 percent said their ERP software currently provides sufficient flexibility and management reporting capabilities but may not meet near-term future needs, while 18 percent said the system was somewhat or very deficient. At the same time, 39 percent indicated that investing in a major ERP system for the purpose of better managing student information and business support functions would be a major challenge.

KPMG Viewpoints

From the survey results, administrators appear to be comfortable in the near term with their current ERP system. Moreover, replacing existing ERPs and related components would be an expensive, complex project, and many institutions are naturally reluctant to embark on a new installation given the cost and disruption. But in a world where the pace of technological advances is ever accelerating, they acknowledge that they may need to upgrade their software in the not-too-distant future.

Over the past decade, many larger institutions have invested in powerful, often highly tailored, non-cloud-based ERP installations. In the past, general ledger, procurement, and human resources were typically the only fully integrated components of such ERPs because few “one-stop” systems embedding other industry administrative functions such as student services, budgeting, endowment, and fundraising were available from a single provider. However, in response to industry demand, software providers have invested more heavily in developing technology platforms covering these areas that customers can tailor and integrate into existing ERPs.

At the same time, cloud-based ERPs that promise to cover the full breadth of a university’s administrative processes offer a number of attractive benefits to colleges and universities, including a flexible cost structure, such as pay-as-you-go; freedom from maintaining IT hardware as well as software updates; out-of-the-box management-reporting capabilities; and the ability to access new features such as industry-tailored components that previously could only be run outside of the core ERP. Weighing the potential costs and benefits of shoring up existing systems as opposed to seeking out cloud-based solutions to make processes more efficient is an exercise that requires the input of finance, IT, and other stakeholders throughout the institution, as well as the oversight of governance. Regardless of the specific technology solution, in order to optimize value from ERP investments, people and processes should also be viewed as important elements of the overall change initiative.
Enterprise resource planning

**Sufficient flexibility and management reporting capabilities by enterprise resource planning (ERP) software**

Q: Does your Enterprise Resource Planning (ERP) software provide sufficient flexibility and management reporting capabilities?

- 19% Meets almost all of our current and foreseeable needs
- 46% Meets current needs, but may not meet near-term future needs
- 15% Somewhat deficient
- 3% Very deficient
- 17% Don’t know/not applicable
A perennial issue for colleges and universities is generating adequate revenue to maintain and expand programs while absorbing rising costs and new expenditures. This issue has been exacerbated in recent years, as schools face a challenging environment in which to grow net tuition revenue. With parents and students increasingly concerned about rising college costs, increasing net tuition is not feasible for many schools. Meanwhile, public policy advocates and other regulators, such as the Department of Education, are applying pressure on the cost of higher education by increasing transparency to assist parents and prospective students. In addition, a lack of growth in federal research dollars and, for many public institutions, dwindling state assistance, are also major challenges. The survey found that 38 percent of respondents selected “identifying alternative revenue sources” as an initiative on which their institution’s leadership will likely spend significant energy, time, and resources.

As with technology, institutions are looking at innovative approaches to generate revenue and diversify revenue streams. According to the survey, these alternatives included partnerships (47 percent of respondents), philanthropy (44 percent), technology transfer (37 percent), and online initiatives (33 percent).
Revenue streams as part of institution’s revenue diversification strategy

Q: In recognition of limited federal and state funding opportunities, what revenue streams are part of your institution’s revenue diversification strategy?

- Partnerships: 47%
- Philanthropy: 44%
- Technology transfer: 37%
- Online initiatives: 33%

Multiple responses allowed

KPMG Viewpoints

Finding revenue streams other than raising tuition will require creativity—and innovation.

Corporate partnerships may be another effective path. Georgia Tech’s Enterprise Innovation Institute (EI2) provides training, education, and access to Georgia Tech’s research and facilities for start-up companies, industry, and the public sector. Technology transfer—which for some larger institutions has been a revenue stream for many years—is gaining more widespread focus as a potential revenue enhancement. Other examples of alternative revenues include programs under which schools can contract with an organization to provide a specific service involving a unique expertise of its faculty. In addition, institutions have negociated research partnerships with private foundations and corporations. Other, less cutting-edge strategies include the renting or leasing of campus facilities to outside groups.

8 http://innovate.gatech.edu/
9 http://www.nacubo.org/Business_Officer_Magazine/Magazine_Archives/February_2013/Revenue_Refill.html
10 Ibid.
The growth of online schools and academic programs has prompted some to speculate that learning over the Internet will be the wave of the future. Certainly, online learning, with its lower costs and greater flexibility, will have an appeal to a certain segment of the student population. But the live-away, on-campus experience will remain the prime choice for most students, particularly for the traditional 18-to-22-year-old cohort.

Given that many Millennials rank campus “curb appeal” as an important criterion when selecting a college, it is not surprising that colleges and universities have continued to spend heavily on building and refurbishing campus facilities. In 2014, schools began work on projects valued at $11.4 billion, up 13 percent from the previous year, and the largest dollar value of construction starts since the peak year of 2008, according to Dodge Data & Analytics. And borrowing to pay for the upgrades has been substantial. Among respondents, 43 percent said that their institution’s capital project budget, over the next five years, was likely to increase by 10-20 percent, while 12 percent said they expect their budget to increase by more than 20 percent.

Administrators recognize that such aggressive building plans present a number of risks. The survey found that being able to pay for the construction projects was a chief concern, with 42 percent saying financial constraints was the biggest risk they face in the delivery of capital projects, followed by cost overruns at 38 percent.

Again, innovative thinking may provide the answer to overcoming these risks. In this regard, the survey found a particular willingness to partner with the private sector for certain aspects of capital projects. Among respondents, 46 percent said they envision collaborating with the private sector on project construction, 45 percent said project financing, while 40 percent said project design.

11 http://www.wsj.com/articles/SB100323975786436414884004581086902525033790
12 http://www.nytimes.com/2012/12/14/business/colleges-debt-falls-on-students-after-construction-binges.html?pagewanted=all&r=0
For public institutions especially, so-called public-private partnerships, increasingly used by state and local governments for infrastructure projects, could be an answer. Local governments use public-private partnerships to secure financing, rather than the more traditional route of raising taxes or floating bonds. These partnerships spread the financing risk to a private entity in exchange for some share in the revenue. Significantly, 49 percent of survey respondents from public institutions said they would envision partnering with the private sector for project financing, compared with 39 percent of private institutions.

KPMG Viewpoints

Colleges and universities are in the business of education, not real estate development, so it is not surprising that many administrators are expressing concern over the risk associated with building projects. In particular, they worry about managing these projects effectively and bringing them to completion on time and on budget. However, there are steps they can take to address these concerns. When planning capital projects, colleges and universities should:

- Implement both long-range planning and project management control processes.
- Prioritize projects to help ensure that completed facilities meet an institution’s evolving needs.
- Employ diligent project monitoring from planning through completion to help ensure timely and on-budget capital projects.¹³

The careful selection of a project manager, whether internal or external, to help manage such projects is an investment that can pay off ultimately in greater cost savings and fewer headaches.

With respect to public-private partnerships and related financing considerations, it is also important that administrators carefully evaluate not only the impact of such partnership agreements on budgets, but also their potential effect on debt covenants, bond ratings, and financial reporting.

**Capital projects**

### Increase in institution’s capital project budget

Q: Over the next five years, how much is your institution’s capital project budget likely to increase?

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 20%</td>
<td>12%</td>
</tr>
<tr>
<td>10% to 20%</td>
<td>43%</td>
</tr>
<tr>
<td>5% to less than 10%</td>
<td>23%</td>
</tr>
<tr>
<td>Less than 5%</td>
<td>12%</td>
</tr>
<tr>
<td>Not likely to increase</td>
<td>10%</td>
</tr>
</tbody>
</table>
Biggest risks in the delivery of capital projects

Q: What are the biggest risks you face in the delivery of capital projects?

<table>
<thead>
<tr>
<th>Risk</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial constraints</td>
<td>42%</td>
</tr>
<tr>
<td>Cost overruns</td>
<td>38%</td>
</tr>
<tr>
<td>Schedule delays</td>
<td>27%</td>
</tr>
<tr>
<td>Construction and operations/maintenance interface conflicts</td>
<td>22%</td>
</tr>
<tr>
<td>Quality management</td>
<td>22%</td>
</tr>
<tr>
<td>Design and construction interface conflicts</td>
<td>22%</td>
</tr>
<tr>
<td>Site conditions/environmental risk</td>
<td>19%</td>
</tr>
<tr>
<td>Design error/omission</td>
<td>17%</td>
</tr>
<tr>
<td>Impact on balance sheet</td>
<td>17%</td>
</tr>
<tr>
<td>Resource availability (labor/materials equipment)</td>
<td>15%</td>
</tr>
<tr>
<td>Interest rate exposure</td>
<td>13%</td>
</tr>
<tr>
<td>Commissioning</td>
<td>11%</td>
</tr>
<tr>
<td>Contractor default during construction</td>
<td>10%</td>
</tr>
<tr>
<td>Geotechnical risk</td>
<td>10%</td>
</tr>
</tbody>
</table>

Multiple responses allowed
Capital projects

Partnership with the private sector to deliver capital projects

Q: How do you envision partnering with the private sector to deliver capital projects on your campus in the near future?

- Project construction: 46%
- Project financing: 45%
- Project design: 40%
- Operations and maintenance: 27%

Multiple responses allowed
New approaches for continued success

With rapidly changing technology and evolving demographics, college and university administrators are facing a brave new world of challenges to keep their institutions up to date and attractive to new students. Fortunately, organizations outside of academia have already grappled with these issues, and these solutions can be adapted to the world of higher education. Retailers are leveraging D&A to gain greater insights into their customers. Financial institutions rely on cybersecurity to ensure the safety of their clients’ assets. Many businesses are turning to cloud ERP solutions to run their operations more efficiently for lower costs. And more institutions are partnering with the private sector to help create new financing arrangements for big infrastructure building projects.

For colleges and universities, innovation is a well-worn path. But school administrators can apply many lessons from other industries on how to use that creative thinking to find new approaches to meet the issues facing higher education of today and prepare their institutions for continued success tomorrow.
KPMG's 2015—2016 Higher Education Industry Outlook Survey reflects the viewpoints of 102 senior higher education executives in the United States, including presidents, chief financial officers, controllers, and other officers of private and public four-year colleges and universities. The survey was conducted in July 2015.

About KPMG

KPMG’s commitment to higher education, research, and other not-for-profit organizations began shortly after the firm was established.

In fact, KPMG was the first major professional services firm to develop a Higher Education, Research & Other Not-for-Profit (HERON) practice. For decades, our dedicated HERON practice has served higher education and not-for-profit organizations as auditors, tax specialists, and business advisers. Our HERON practice constitutes one of our significant industry practices, with more than 1,500 professionals nationally.

We serve private and public colleges and universities across the country, and our professionals have been educated throughout their careers on the issues and challenges of higher education. Our deep experience provides our professionals with the ability to identify valuable insights to help higher education leaders address the critical issues they face in a rapidly changing industry.

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation.

The views and opinions from the survey findings are those of the survey respondents and do not necessarily represent the views and opinions of KPMG LLP.
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