The Economist Intelligence Unit

A report from The Economist Intelligence Unit

CLOSING THE SKILLS GAP

companies and colleges collaborating for change

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Contents

Who took the survey

The survey drew on 343 responses from executives in the US who are familiar with their company's workforce-development strategy and higher-education efforts. Nearly half (47%) of respondents are C-level executives or equivalent, and 53% are senior vice-presidents, vice-presidents or other senior managers. More than half represent very large companies, with 54% of respondents hailing from companies with annual revenue of more than US$1bn. Nearly one-third (34%) come from companies that have more than 10,000 employees. Please see the appendix for full survey demographics.

About this report

Closing the skills gap: companies and colleges collaborating for change explores the role of partnerships between US industry and higher education to prepare students and employees for the modern workforce. It considers how their cooperation can address the current "skills gap"—a growing gulf between the skills workers possess today and the skills businesses say they need—and investigates what US companies are willing to do to narrow that gap.

As the basis for this research, The Economist Intelligence Unit conducted in March 2014 a survey of 343 US executives who are familiar with their company's workforce-development strategy and higher-education efforts. The findings and views expressed in this report do not necessarily reflect the views of the sponsor. The author was Aisha Labi. Riva Richmond edited the report and Mike Kenny was responsible for the layout. We would like to thank all of the executives who participated, whether on record or anonymously, for their valuable insights.

Interviewees

Anthony P. Carnevale, director of Georgetown University Center on Education and the Workforce

Ryan Childers, section manager for apprentice and associate training at BMW Manufacturing Co., South Carolina

Carrie B. Kisker, independent consultant and director of Center for the Study of Community Colleges

Dane Linn, vice-president at Business Roundtable

Julio A. Pertuzé, assistant professor at Pontifical Catholic University of Chile

Ann Randazzo, executive director of Center for Energy Workforce Development

Christopher Valentino, director of contract research and development at Northrop Grumman

Louis Soares, vice-president at Center for Policy Research and Strategy at American Council on Education

Jason A. Tyszko, senior director of education and workforce policy at US Chamber of Commerce Foundation

Introduction

Few topics have preoccupied US employers more in recent years than what they perceive as a growing gulf between the knowledge, skills and abilities of young people entering the workforce and the knowledge, skills and abilities that they believe to be crucial to the success of their enterprises.

The overwhelming consensus among employers is that too many graduates lack critical-thinking skills and the ability to communicate effectively, solve problems creatively, work collaboratively and adapt to changing priorities. In addition to these "soft skill" deficits, employers are also finding that young people lack the technical, or "hard", skills associated with specific jobs.

A growing number of businesses have taken matters into their own hands, partnering directly with institutions of higher education in a variety of ways to recalibrate this apparent imbalance.

In what ways and how well are such collaborations addressing the "skills gap"? And what more are companies willing to do to ensure that partnering with colleges, universities and other post-secondary education and training programmes helps to close this gap? To answer these and other pressing questions, The Economist Intelligence Unit conducted a survey in March 2014 of 343 senior executives to gauge their views about how to make higher education and training workforce-relevant and undertook interviews with experts from both higher education and US companies.

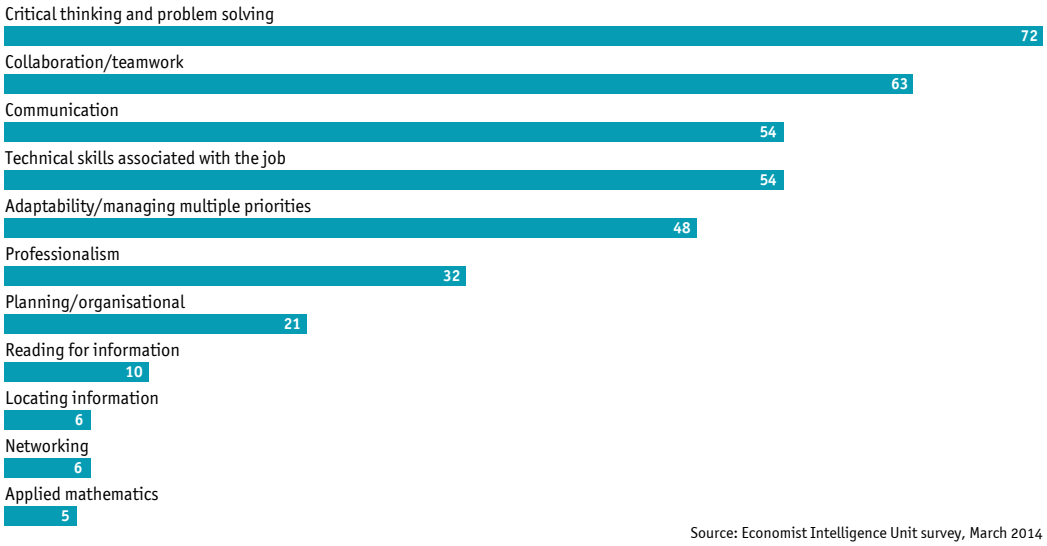
This research shows that, although the desire for collaboration with higher education is almost universal, there is a lack of coherence in how companies approach such partnerships, the kinds of institutions they seek to partner with and the benefits they expect to derive from such collaborations. The survey, in particular, reveals a pervasive concern and need among companies to better understand the tangible returns on the investments they make in institutions, in educating students or in training employees. If we want to expand and improve these collaborations, finding ways to better measure outcomes seems to be a key first step. ■

1 A short history of the skills gap

The growing mismatch between the needs of business and the offerings of the US education system stems from the fundamental restructuring of the national economy since the 1970s. Technological advances have revolutionised most industries, transforming the nature of the tasks of most employees, the kind of activities they engage in and their responsibilities. Manufacturing, once focused on the mass production of standardised goods, has come to be dominated by companies whose fortunes rest instead on variety and constant innovation. In many cases, the actual manufacture of goods, the one-time bedrock of the US economy, now represents only a fraction of the cost of an item and is often outsourced abroad.

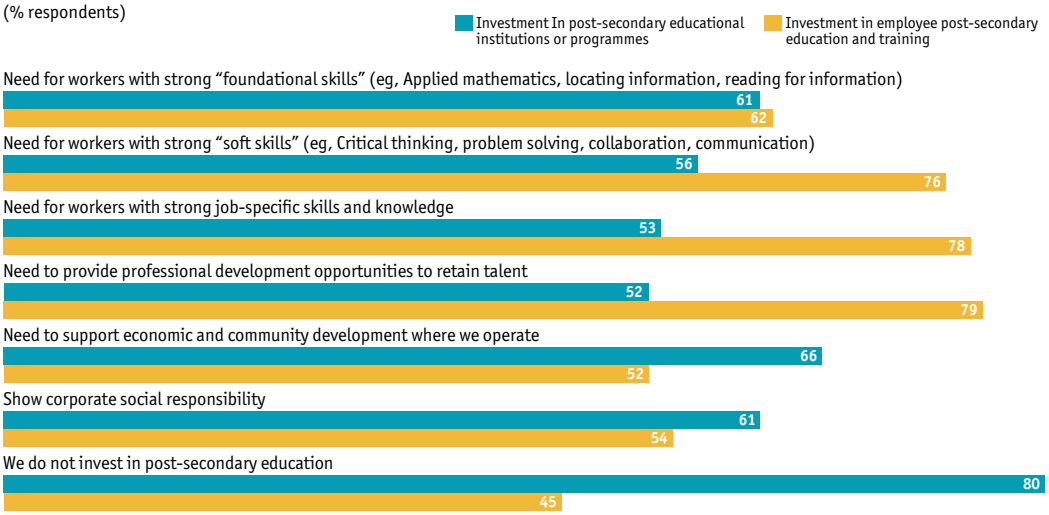
This shift and the transition to an increasingly service-based economy have led to working environments that require more and more collaboration rather than the performance of repetitive tasks or the operation of machinery. Thus, we have seen the rise in both the necessity of and demand for so-called "soft" skills—critical

Q **At your company, what workplace skills are considered most important for employees to have when they join?**
Select the top four.
(% respondents)



Source: Economist Intelligence Unit survey, March 2014

Q **At your company, what are the main drivers of investment of resources in post-secondary educational institutions or programmes? What are the main drivers of investment of resources in post-secondary education and training for your employees, specifically?**
Select the top three in each column.
(% respondents)



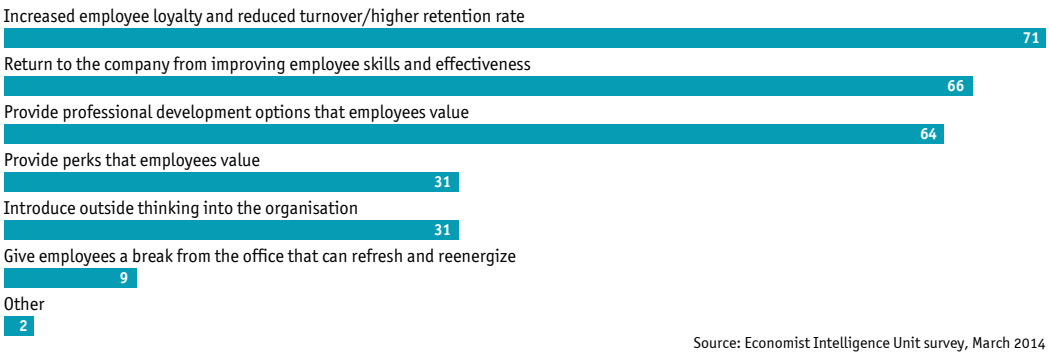
Source: Economist Intelligence Unit survey, March 2014

thinking and problem solving, collaboration and teamwork, and effective and timely communication. At all career levels, employees are increasingly required to integrate knowledge from a number of areas and work in teams to find innovative solutions to problems.

There is also growing discussion of the competencies required for middle-skills jobs. Often found in fields such as information technology, healthcare, high-skilled manufacturing and the service industry, these jobs require some post-secondary training, but not a four-year university degree. These kinds of jobs comprise the largest segment of the US labour force, and many experts believe that shortages of workers prepared for them are undermining US competitiveness and encouraging firms to shift operations abroad.

The EIU's survey of senior executives reveals widespread concern among employers about worker preparedness across the entire skill spectrum. Employers consider both hard and soft skills to be valuable but consider the most important to be

Q **At your company, what are the main incentives for investing resources in post-secondary education and training for your employees, specifically?**
Select the top three.
(% respondents)



Source: Economist Intelligence Unit survey, March 2014

critical thinking and problem solving (72% of executives select this as one of their top three), collaboration and teamwork (63%), communication (54%), the technical skills associated with specific jobs (54%) and adaptability and the managing of multiple priorities (48%).

Employers want to collaborate on training and education programmes with higher-education institutions to foster a broad range of skills. A need for workers with strong "foundational skills", such as applied mathematics and reading for information, is a primary motivator for 61% of respondents investing in post-secondary education institutions or programmes. However, strong "soft skills", job-specific skills and a need for employers to provide professional development opportunities to retain talent also rank high.

Indeed, employers are highly motivated to invest in collaborations with higher-education institutions to foster greater satisfaction among existing employees. Nearly three-quarters (71%) of the executives surveyed say that increased employee loyalty and higher retention rates are their main incentive for investing in post-secondary education and training programmes for them. They also highlight a greater return to the company from improved employee skills and effectiveness and the opportunity to provide professional-development options that employees value. ■

2 The role of higher education in the workforce

> “Colleges and universities think they’re adequately preparing students for the workforce. You couldn’t have a more stark difference of opinion from industry.”
>
> Dane Linn, vice-president at Business Roundtable

The US education system was once relatively efficient at keeping up with the demands of employers—with responsibility for instilling the skills required for entry-level jobs getting passed back to secondary schools, says Anthony P. Carnevale, director of Georgetown University’s Center on Education and the Workforce. By the 1980s, however, this “passback” system had begun to falter as demand for skilled workers began to outpace the system’s ability to produce them. Whereas, in the past, the majority of jobs had required only a high school diploma, a growing number of entry-level jobs—many of them in the middle-skills range—began to require some level of post-secondary education or training.

Educational attainment itself was not what employers valued, says Mr Carnevale. Instead, as jobs grew more complex, higher education became a sign to potential employers that individuals had the new competencies, skills and abilities they were seeking in employees. More than 60% of jobs now require some kind of post-secondary education or training. The range of institutions providing this education includes specialised training schools, technical colleges, two-year community colleges and four-year colleges and universities.

Much of the responsibility for better equipping young people for contemporary careers has fallen to higher education by default, and the sector has both embraced and resisted the challenge. “They want it and they don’t want it. They want the money, but they are not altogether on board with the economy gaining more leverage inside higher education,” Mr Carnevale says. “They say they have other missions—and they do—but this one has become paramount.”

While missions like instilling civic responsibility and exposing students to the liberal arts remain key goals, higher education has always played a central part in preparing students for careers in a range of fields. Colleges and universities, in particular, continue play a central role in imparting critical thinking and other soft skills. But the needs of companies and the knowledge and competencies that young people possess upon graduation have increasingly come to be seen as out of alignment, and the role of higher education has been subjected to greater scrutiny than ever.

“The design of the curriculum has not changed for a long time and doesn’t reflect the types of jobs employees do in the workplace,” says Dane Linn, who oversees the education and workforce committee at the Business Roundtable, an association of chief executive officers of leading US companies. “Colleges and universities think they’re adequately preparing students for the workforce. You couldn’t have a more stark difference of opinion from industry. They’re not getting anywhere close to what they need.” Because of this disconnect, employers now spend twice as much time training new employees as in the past, he says.

“Employers are right when they say that the

demand for post-secondary competencies has increased much faster than our ability to produce them," Mr Carnevale says. Companies are placing much of the blame on higher education for failing to keep pace with business. "Higher education does follow what goes on in the economy, but the problem is it's much too slow," he says.

The latest educational attainment statistics underscore the extent of the problem. Recent analysis by *The New York Times* of data from the past 35 years shows that the educational attainment in the US "has risen far more slowly than in much of the industrialised world over the last three decades, making it harder for the American economy to maintain its share of highly skilled, well-paying jobs". While the literacy, numeracy and technology skills of older Americans stack up well in international comparisons, younger Americans rank near the bottom compared with other rich countries.

> "Higher education does follow what goes on in the economy, but the problem is it's much too slow."
>
> Anthony P. Carnevale, director of Georgetown University Center on Education and the Workforce

With so much at stake and little time to waste, companies are increasingly taking the initiative in tailoring education to their needs. This process is occurring not only in higher education, but across the entire education system. "This is a shared responsibility and is not just for higher education," Mr Linn says. The adoption of the Common Core State Standards Initiative by most states for the K-12 curriculum, for example, is intended to address many of the fundamental deficits in skills that employers identify and has been broadly supported by industry organisations such as Mr Linn's.

It is in the realm of higher education, however, that individual companies are taking a much more direct approach to designing curricula, providing expertise to institutions and forging long-term, permanent relationships designed to help close the skills gap. They are doing so individually and in collaboration with other companies, as well as with organisations such as chambers of commerce and community groups.

Some two-thirds of respondents to the EIU survey say that their firm is either currently collaborating with higher-education programmes (38%) or has done so within the past three years (38%). More than two-thirds (77%) partnered with a university or four-year institution, 32% with a community college and 31% with technical or training programmes. Asked which kinds of institutions they prefer to collaborate with in the future, the majority of executives (60%) selected universities and four-year colleges as their preferred partner, compared with 23% for technical and training programmes and just 9% for community colleges.

This preference for partnering with four-year institutions may reflect a bias of company executives for the kinds of institutions they themselves attended, as well as the significant experience working with such institutions among the executives in this survey sample. Favouring four-year institutions could hinder progress towards more fruitful collaborations. While a growing number of four-year colleges are, indeed, looking to collaborate with industry, in part to replenish diminished state funding, the most substantive overtures to industry have come from community colleges, says Mr Linn.

"We go where there's a high degree of interest," he says, and that interest is increasingly coming from community colleges, not four-year colleges and universities. ■

3 Industry-university collaborations, past and present

The private sector has long used collaborations and partnerships with higher-education institutions to help expand the pool of well-educated potential employees. And industries and companies in transition are always among the first to turn to higher education for an infusion of expertise.

Julio A. Pertuzé, an assistant professor at the Pontifical Catholic University of Chile who recently earned his doctorate from the Massachusetts Institute of Technology (MIT), has studied the evolution of industry-university collaborations from the perspective of companies. He cites the forest-products industry in Europe, Canada and the US as a key example of how a mature industry can repeatedly reach out to higher education to renew and develop workplace skills.

Beginning in the early 1900s, the industry forged many partnerships to jump-start new university research programmes and foster the technical and scientific expertise they required. In the 1940s and 1950s, a shortage of technical personnel led companies to set up programmes at established universities. In 1948, Weyerhauser, one of the world's largest timber and wood-products companies, created a foundation offering graduate fellowships in forestry, chemistry and industrial relations at six US universities, including Yale, the University of Chicago, Oregon State and North Carolina State. Much of the initial research focus of the departments of electrical engineering and chemical engineering at MIT were tailored for local industry and to finding new uses for the by-products of paper manufacturing.

Industries in transition have continued to reach out to US higher education to help them reconfigure their internal capabilities. The Center for Energy Workforce Development (CEWD) was formed in 2005 by utilities across the country seeking to pool resources to address workforce-training and education issues. At the time, the power industry was facing a wave of retirements as well as a construction boom, and it was becoming increasingly clear that traditional talent pipelines were not up to the task.

"The industry came together to say, 'What can we do better together rather than separately?'" says Ann Randazzo, CEWD's executive director. This collaborative approach came naturally to an industry accustomed to pooling resources in the face of need, for example, in the aftermath of natural disasters. With a total of 518,000 workers across the country, the industry was small enough that working in conjunction, even on a national scale, made sense.

The initial focus for utilities collaborations was disseminating information about the range of possible career tracks that they had to offer. "The idea was that if we let people know we have jobs and how great they are, what kinds of benefits they offer, people will come," says Ms Randazzo. Once that objective was met, however, it became clear there were deeper issues. "We had people flocking to our jobs but then [we] realised they don't have the skills to pass the pre-employment test," she says.

In response, the companies scaled up a programme first used in Georgia to screen prospective line workers, the technicians responsible for maintaining power lines. Known as a "boot camp", this pre-apprenticeship programme was designed to educate potential employees in the competencies and skills required for different jobs. "It's a way for people to understand what the job entails," Ms Randazzo says. "If you can't climb a pole, it's going to be difficult to be a line worker."

The jobs for which the boot camp approach has been used are mostly middle-skills jobs requiring a high-school credential and some post-secondary training. However, utilities also hire people with higher levels of educational attainment, including technicians with associate's degrees and highly skilled engineers with four-year and graduate degrees.

Ms Randazzo describes CEWD's primary role as a co-ordinator that looks at what works and brings together stakeholders to address changing workforce needs. Much of the organisation's efforts involve partnering with higher-education institutions, primarily community colleges, in efforts to map out new pathways to jobs.

This year, for example, CEWD's focus is on encouraging more women to pursue careers with utility companies. A recent boot camp aimed at women brought together several local utilities in the Washington, DC, area at facilities provided by North Virginia Community College. Participants who completed the training were awarded one community college credit hour.

In another initiative, CEWD worked with six large regional utilities and several community colleges to develop a road map to employment for military veterans. Many of the veterans already had skills and training that aligned well with existing community college courses, so CEWD worked with the colleges to ensure that consistent credit would be awarded for that prior learning.

CEWD works directly on curriculum design with community colleges, creating new programmes in fields where gaps in the training exist. "We have lots of jobs in accounting, but we're not getting together to train accountants. There are plenty of accounting programmes for that, " Ms Randazzo says.

The programmes they help develop are broadly tailored to meet existing gaps and feed into multiple industries and companies. Some of these programmes are such effective pathways to high-paying, secure jobs that "we have students coming out of four-year colleges and then going to community colleges in order to earn a much higher salary than they would otherwise," Ms Randazzo says.

The role of community colleges

Community colleges are often the obvious partners for companies seeking greater direct involvement in higher education, and their central role in workforce-relevant education is evident across industries and throughout the country.

Unlike four-year universities or liberal arts colleges, an explicit part of the mission of community colleges has always been to prepare students to be productive members of the workforce. With their local and regional focus, they are ideally positioned to work closely with local companies and workforce-investment organisations, developing and improving programmes that benefit the communities in which they are based.

"Community colleges are a natural fit for us," says Mr Linn of the Business Roundtable.

What's more, declining state and federal spending on higher education over the past two decades has forced institutions either to raise tuition or to look to other funding sources to make up the shortfall. "Partnerships with the private sector have become fairly essential to the revenue stream" of community colleges, says Carrie B. Kisker, an independent education research and policy consultant and expert on community colleges. As such, they are under "intense pressure" to offer innovative and engaging curricula that keep pace with industry developments, she says. ■

> "Community colleges are a natural fit for us."
>
> Dane Linn, vice-president at Business Roundtable

CASE STUDY: A German model gains traction in the US

Apprenticeship programmes have become one of the most popular ways for US companies and community colleges to collaborate on workforce training. The revival of this age-old practice is attributable, in large measure, to several German firms, including BMW, Volkswagen and Siemens, that have helped bring Germany's pervasive apprenticeship model to the US.

In the US, apprenticeships have long been a feature of some trades, such as carpentry. But these new German-style apprenticeship programmes, which allow students to split their time between on-the-job training and classroom study, are much more prevalent in the area of middle- and high-skilled jobs.

More than half (56%) of survey respondents say they are strongly or moderately willing to offer apprenticeships to students who are deciding on a course of study, compared with 78% who are willing to offer internships. Internships, no doubt, are more popular because they require less time, manpower and commitment—and, for most companies, are also more familiar.

In Germany, roughly half of all students begin apprenticeships after finishing secondary school, with the apprentice system being the main means of entry into the workforce for around 60% of the labour market. German companies are under no obligation to offer apprenticeships and the costs associated with subsidising them can be high, but nearly one-quarter of all German companies take part. Because so many companies participate, companies do not tend to view investment in trainees who leave as a loss, since they also benefit from the investment in training that other firms have made.

The value of the German model is on display at the Spartanburg, SC, plant operated by BMW, the German auto giant. BMW opened the plant in 1994 and has expanded it several times since. Workers there build 300,000 cars a year, 70% of which are exported, making the facility the US auto plant with the most exports. BMW announced in February that it will invest an additional $1bn in the facility by 2016, expanding its capacity by 50% and making it BMW's largest manufacturing facility in the world.

In 2010, the company started apprenticeships in Spartanburg that are inspired by the German programme, which is often the path to career-long, well-paying jobs in the industry. The programme, which involves partnerships with three local technical colleges, was driven by the company's need for skilled workers to operate the high-tech equipment central to its manufacturing process.

"We're adding more and more automation and robotics," says Ryan Childers, who oversees apprentice and associate training at the plant. "We need people with mechanical skills, electrical skills, robotics training. We can't readily find those multi-skilled employees out there who have all that."

To meet these needs, BMW reached out to the local colleges. Together, they set up the BMW Scholars Program, a selective apprenticeship that takes only 20-25% of applicants. Students receive tuition assistance from the company and combine study for a two-year degree with up to 25 hours a week of work at the facility. The company has no obligation to offer them a job nor does the student have an obligation to accept a job offer—but all 26 students who have gone through the programme so far have accepted offers for permanent positions. ■

Q **To the best of your knowledge, in what ways would your company be 'strongly' or 'moderately' willing to help improve information and advisory services for local post-secondary students deciding on courses of study?**
(% respondents)

Source: Economist Intelligence Unit survey, March 2014

4 Essential elements for successful collaborations

The five essential elements for successful partnerships between community colleges and local business and industry, according to Ms Kisker and co-author, Rozana Carduccci, in their 2003 article in *UCLA Community College Review*, are: a local or regional challenge that calls for collective action; shared mission and goals; value for all partners; strong leadership, particularly at the senior administrative level, on all sides; and shared governance and accountability mechanisms.

The importance of these elements has been cited by other experts, including Louis Soares, of the American Council on Education, and are echoed by respondents to the EIU survey. Respondents indicate a clear preference for local and regional partnerships over national ones, regardless of whether efforts are led by their own company, an educational institution or another organisation, such as a non-profit or community group. And they highlight the importance of strong executive leadership, citing a lack of support from senior leadership as one of the main roadblocks to successful collaborations.

Experts agree that strong commitment among the leadership of all organisations involved in a collaboration is essential—and that organisational commitment must also extend beyond leadership ranks. Otherwise, such programmes run the risk of becoming merely public relations exercises, designed to boost a company's profile and foster community goodwill, but without much substantive impact. Partnerships that grow out of project-based working relationships in specific programmes, such as a company's leading engineers collaborating on research with the engineering department at a university, are among the most successful collaborations in terms of the strength of the relationship between the partners. Whether these, in turn, produce significant increases in employment is not clear.

The collaborative landscape

The actual substance of partnerships and collaborations between higher-education institutions and companies varies greatly and can range from a handful of discrete linkages to more comprehensive ties that bind organisations in numerous ways.

Among the most common connections are internship programmes and apprenticeships, which allow students to gain work experience in participating companies, often for course credit. Mentoring programmes, in which company employees are enlisted to serve as a resource for students, are also common, especially when more extensive ties are present between a company and a higher-education institution, for instance, direct financial support from the company for career-advisory services. In many cases, company employees even take on teaching responsibilities at the institution.

Another common practice involves short university-provided courses or tailored academic programmes for company personnel. Academic

staff from the university might, in turn, spend time on sabbatical at companies, allowing them to gain first-hand insights into industry needs.

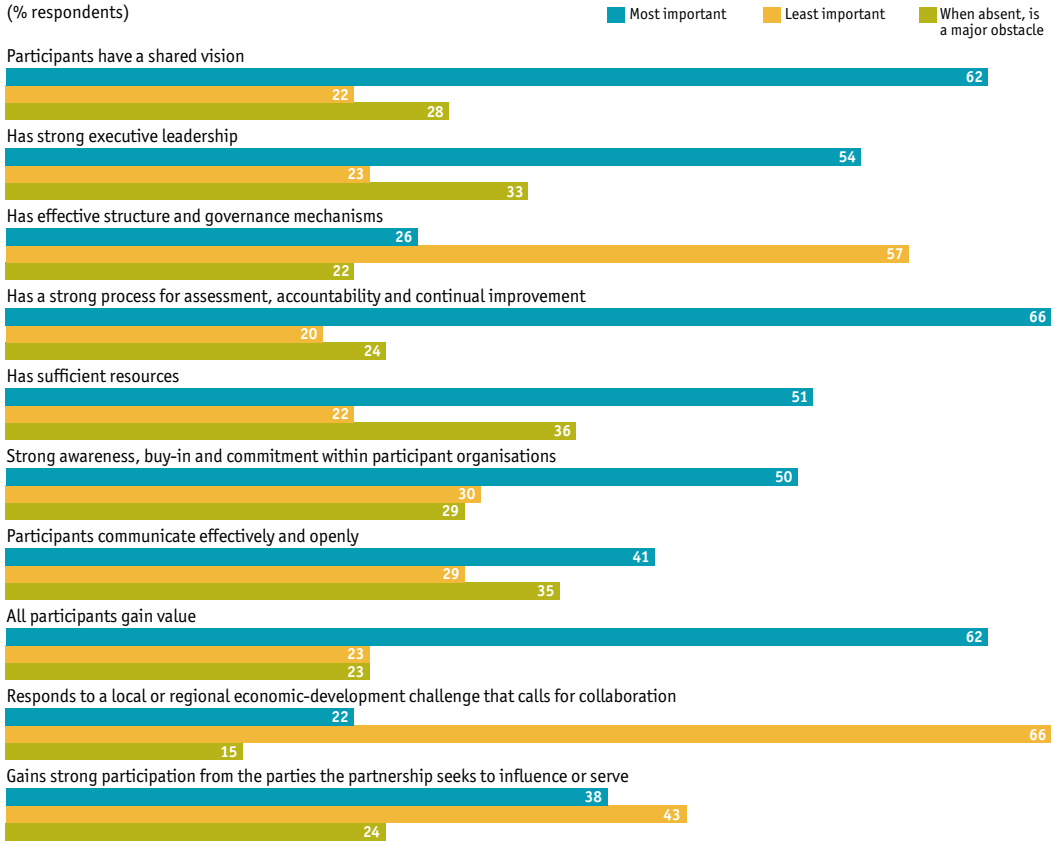
At four-year institutions, companies have long had ties to individual departments and programmes, most notably in science, technology, engineering and mathematics (STEM) fields. "A good engineering programme is going to be connected to industry and is going to offer summer jobs and internships," says Mr Carnevale. These kinds of links, along with endowed professorships or the establishment of company research facilities on campus, have been in place for years and have helped companies steer research and academic training into areas that align with their interests.

Northrop Grumman, the global aerospace and defence technology firm, employs some 10,000 people in Maryland. The company has partnered with the state university system in various ways over the years, including at the community college level and on a graduate engineering programme designed to equip employees with new skills.

In 2012, the company established an honours programme at the university's College Park campus to help ensure a supply of qualified new hires for its highly sensitive cybersecurity operations. It took this approach out of necessity, after finding that students applying for internships were woefully underprepared, says Christopher Valentino, the company's director of contract research and development. "They weren't acquiring skills of value to them, such as writing software code and configuring systems, until later in their education, and they weren't ready to be part of an organisation until late in their junior or senior years," he says.

> "A good engineering programme is going to be connected to industry and is going to offer summer jobs and internships"
>
> Anthony P. Carnevale, director of Georgetown University Center on Education and the Workforce

Q **In your opinion, what are the key characteristics of successful business and higher-education collaborations to make post-secondary education more responsive to workplace needs?**
Select the top three in each column.
(% respondents)



Source: Economist Intelligence Unit survey, March 2014

Undergraduate students selected for the programme—which is designed to provide a broad background in STEM subjects, as well as the social sciences and the ability to integrate knowledge across fields—include students majoring in computer science, engineering, business, public policy and the social sciences. They live in the same dormitory and pursue a cross-disciplinary programme that includes law, public policy, coding, engineering and cybersecurity forensics. Throughout the programme, Northrop Grumman provides guest lecturers, career advisers and mentoring support; students are encouraged to apply for internships with the company. The programme is part of the University of Maryland's goal of increasing degree production in STEM disciplines by 40% by 2040.

Obstacles to collaboration

Universities and liberal arts colleges, whose mission is inherently broader than that of community colleges, have been much more resistant than community colleges to aligning their curriculum to the needs of the labour market.

They have, for the most part, fiercely resisted input in curriculum design from businesses. This institutional resistance is one of the main obstacles companies have faced in establishing broad workforce-relevant collaborations with higher-education institutions beyond community colleges, despite a keen desire to do so revealed by the EIU survey.

However, a significant history of cooperation demonstrates that such institutions are, in many instances, willing to partner with companies on training and education. As public financing for higher education continues to decline, the same financial incentives that have helped motivate community colleges to partner with businesses are also prompting four-year institutions to reach out to industry.

"They're looking for any opportunity they can to be more relevant and to bring in the dollars for what the state isn't giving them anymore," says Mr Linn of the Business Roundtable.

Even in cases where higher-education institutions are fully receptive to a company's collaborative overtures, cost is often a significant obstacle. The most effective programmes are broad-based and require significant investments of money, time and other resources.

Indeed, half of respondents to the EIU survey cite budgetary or financial constraints as the main obstacle to investing in post-secondary institutions or programmes (50%) or in employee training in post-secondary institutions (50%). Almost as many respondents cite concern about making investments that might not directly benefit the company—45% when investing in institutions or programmes and 41% when investing in employees.

Other obstacles to success that employers highlight include difficulties in gaining buy-in among stakeholders within the company, as well as policies and red tape that slow or hinder initiatives. ■

6 Recommendations for future collaborations

Companies seeking effective ways to improve workforce-relevant higher education and training have a range of possible institutional partners and kinds of collaborations available to them. However, the burden is on companies to take the lead in forging those partnerships.

Companies are the ones that have the ability to take swift and decisive action, as well as the capacity to back their actions with financial support. Higher-education institutions, government agencies, local chambers of commerce, industry consortia and other organisations are all potentially valuable partners in the process. And while each is deeply invested in the cause of improving workforce readiness, the stakes are often highest for individual companies whose financial viability and competitive advantage may be on the line.

Once companies take the lead in reaching out to potential partners and establishing a dialogue about how to collaborate, they must still be prepared to cede ground to their partners. They must be open to innovative models, such as new approaches to traditional apprenticeships. Companies must also be sensitive to institutional resistance that may exist on the part of colleges and universities to an intrusion into what they view as their primary mission, even as they enlist financial support and direct input from companies.

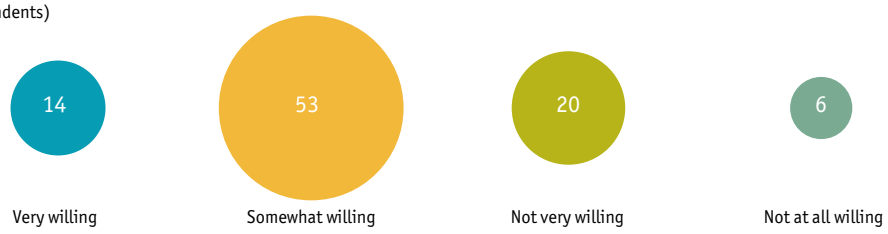
Companies must also recognise the potential advantages of partnering with other companies or taking part in private-sector consortia to pursue workforce-training and education initiatives with higher-education institutions. The EIU survey shows a willingness on the part of most employers to work together to address a common challenge—this willingness must be translated into joint action.

Two-thirds of survey respondents indicate that they would be willing to collect, analyse and share data to assess educational effectiveness and improve education and training programmes. A further 14% of respondents said they would be very willing to do so. A majority are willing to collect data in a standardised format, which could enable data collection and analysis at a scale that could lead to important new insights into how to most powerfully address the skills gap.

Data initiatives could also begin to provide executives with the return-on-investment information they are so keen to acquire. Both companies and the higher-education institutions with which they collaborate must work together to establish clear metrics for the success of their collaborations—and then endeavour to measure whether they are meeting their goals and keep trying until they get there.

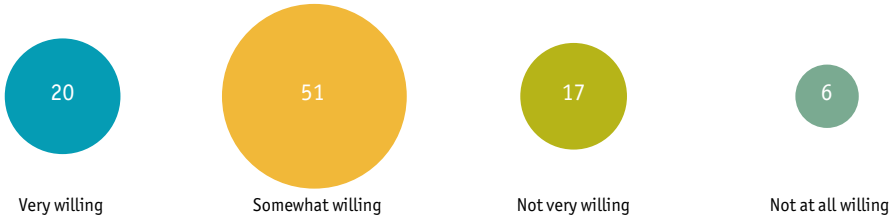
At the same time, they must recognise that establishing substantive and productive partnerships takes time and effort to come to full

Q To the best of your knowledge, to what extent is your company willing to participate in efforts to use workplace data to assess educational effectiveness and improve education and training programmes?
(% respondents)

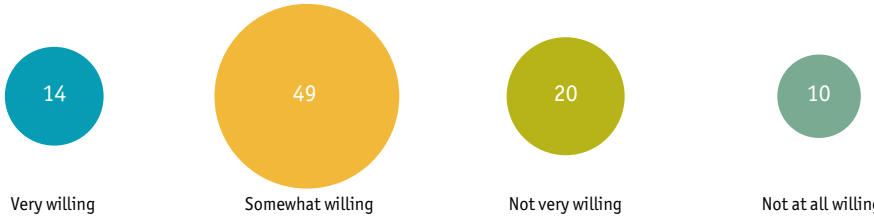


Q To the best of your knowledge, to what extent is your company willing to collect data about the workplace performance and success of former students?
(% respondents)

My company would collect data on its own terms



My company would collect data using a standard format to enable cross-company analysis



Source: Economist Intelligence Unit survey, March 2014

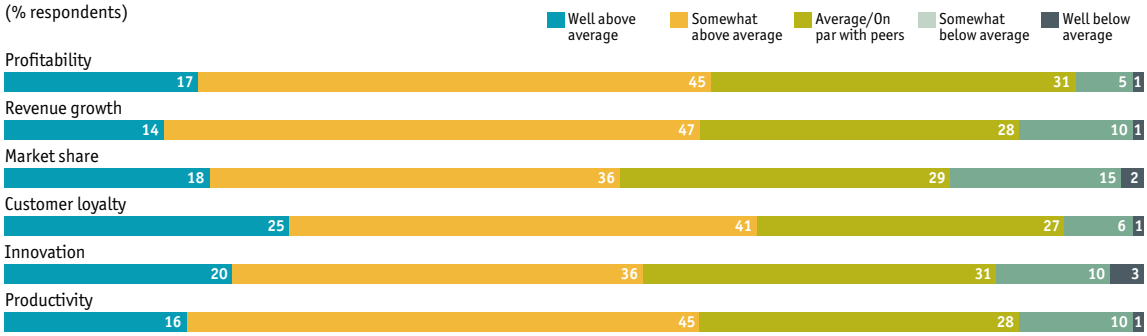
fruition. Investment does not automatically lead to results—and desired results and how to measure their successful achievement must be articulated explicitly if there is to be a hope of achieving them.

But through improved communication and cooperation, and with the development of long-term data initiatives, partnerships between the private sector and higher education can speed progress to a narrower skills gap and greater workplace success. ■

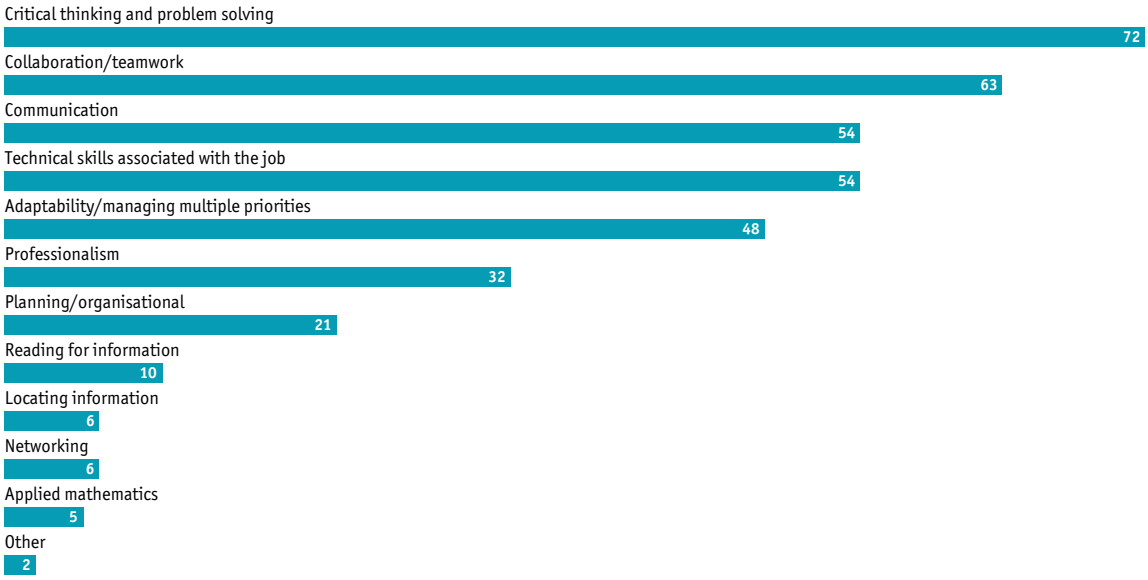
Appendix: survey results

Percentages may not add to 100% owing to rounding or the ability of respondents to choose multiple responses.

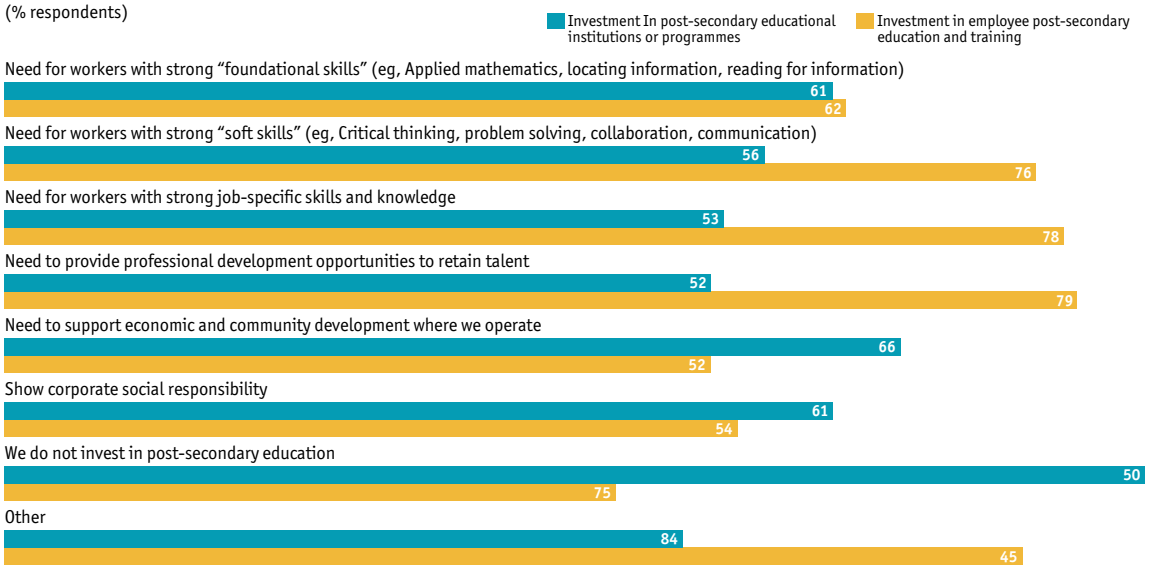
In your opinion, how does your organisation compare to its peers in each of the following performance areas?
Please rate on a scale from "well above average" to "well below average".
(% respondents)



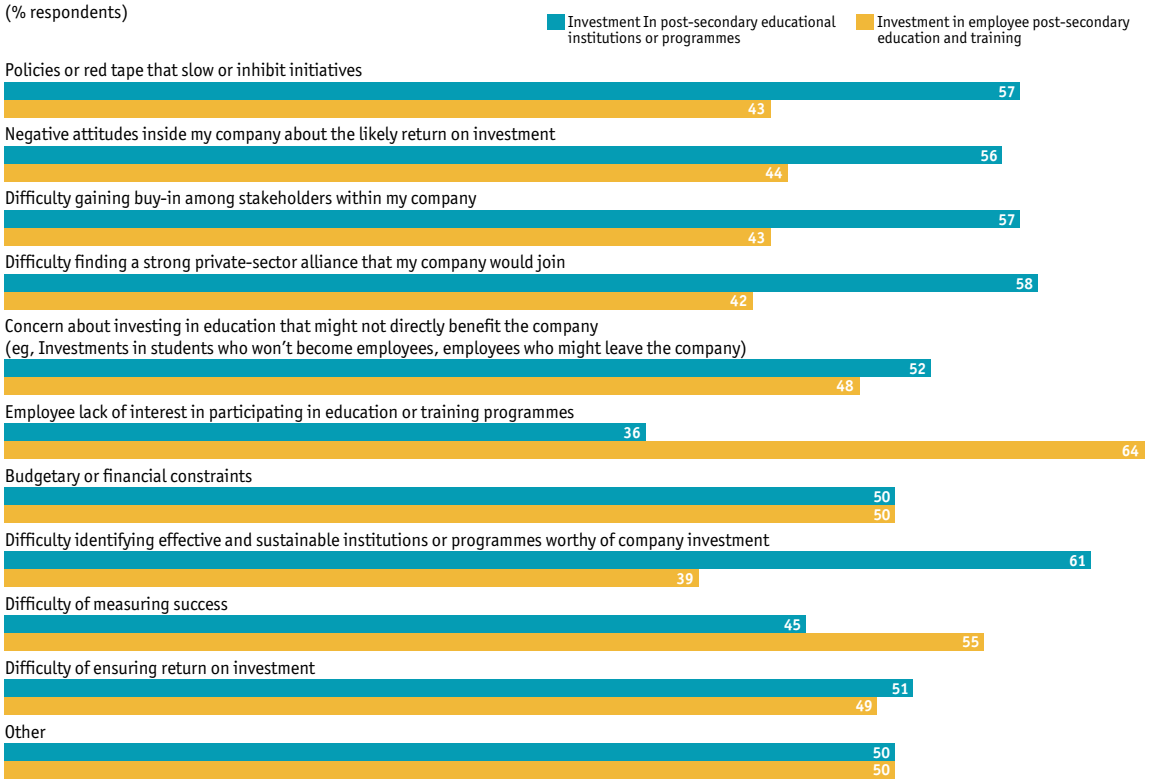
At your company, what workplace skills are considered most important for employees to have when they join?
Select the top four.
(% respondents)



At your company, what are the main drivers of investment of resources in post-secondary educational institutions or programmes? What are the main drivers of investment of resources in post-secondary education and training for your employees, specifically?
Select top three in each column.
(% respondents)

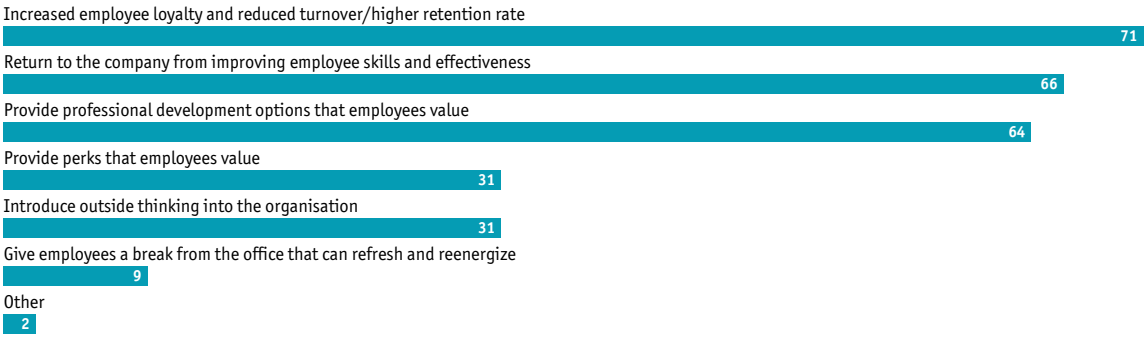


At your company, what are the main obstacles to investing resources in post-secondary educational institutions or programmes? What are the main constraints at your company in investing resources in post-secondary education and training for your employees, specifically?
Select top three in each column.
(% respondents)

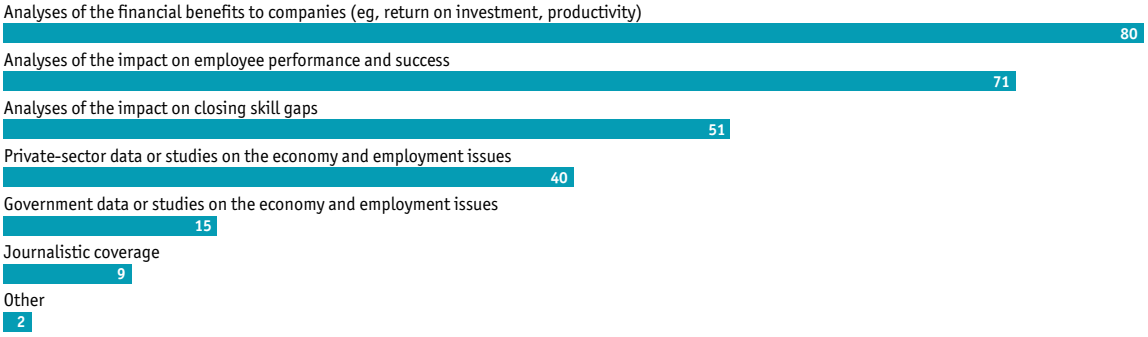


At your company, what are the main incentives for investing resources in post-secondary educational institutions or programmes?
Select the top three.
(% respondents)

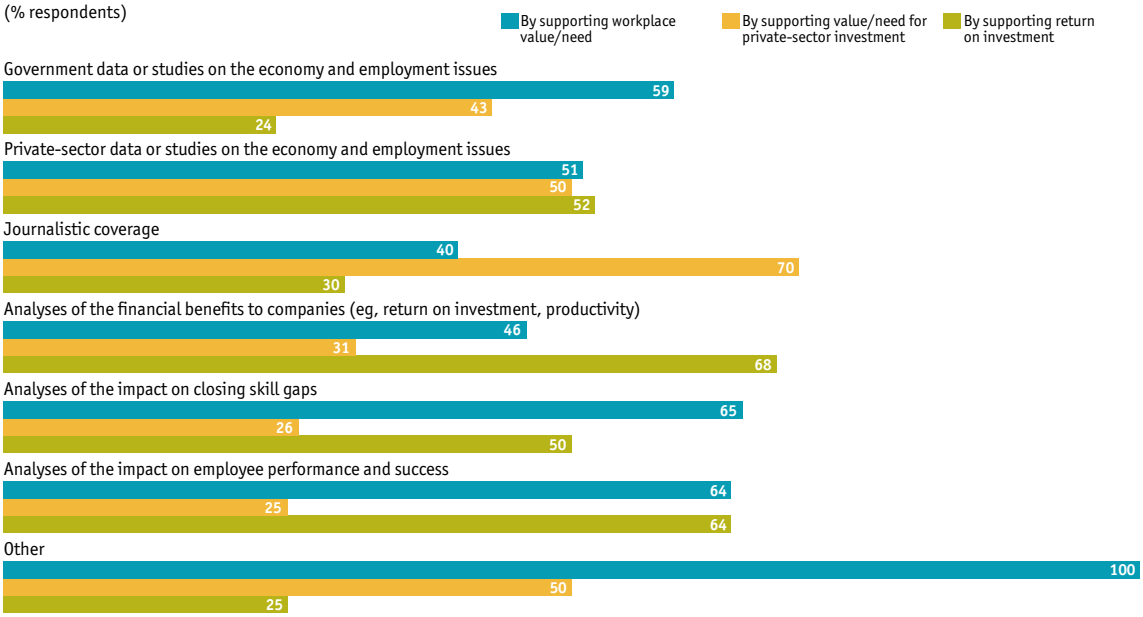
At your company, what are the main incentives for investing resources in post-secondary education and training for your employees, specifically?
Select the top three.
(% respondents)



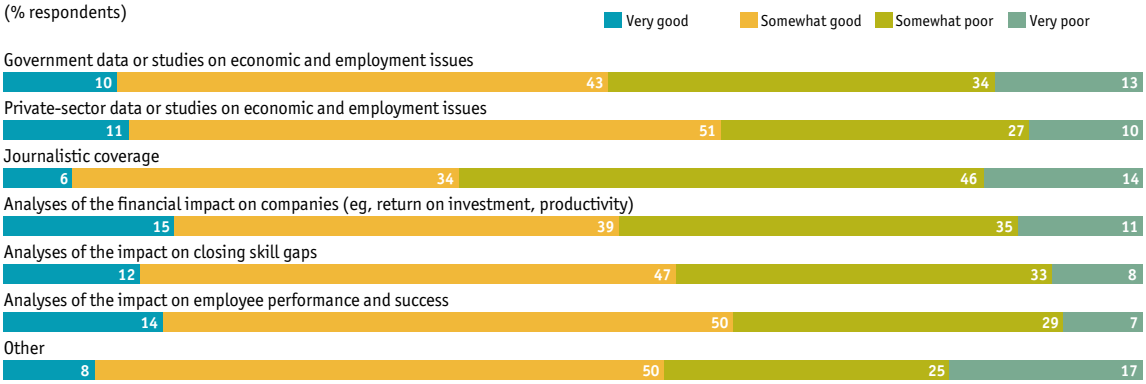
Which of the following types of information most improve the chances that your company would invest in post-secondary education?
Select the top three.
(% respondents)



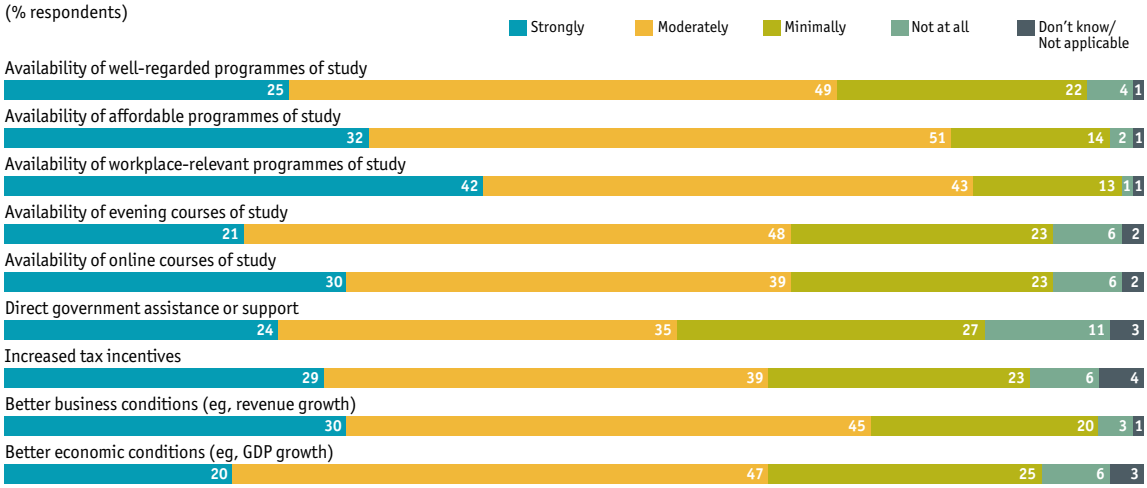
How would information types selected in the previous question improve your company's chances of investing in post-secondary education?
Select all that apply in each row.
(% respondents)



How would you rate the quality of the information your company has to make informed investment decisions in higher education?
Select one response in each row.
(% respondents)

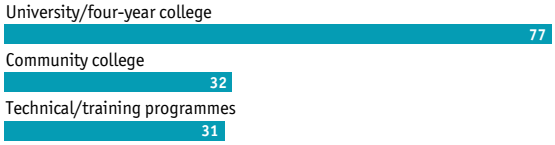


To what extent would the following conditions improve the chances that your company would invest in post-secondary education for employees?
Select a response in each row on a scale from 'Strongly' to 'Not at all'.
(% respondents)



Is your organisation currently collaborating or partnering with higher education in efforts to make post-secondary education more responsive to workplace needs, or has it done so in the last three years?
Please select all that apply.
(% respondents)

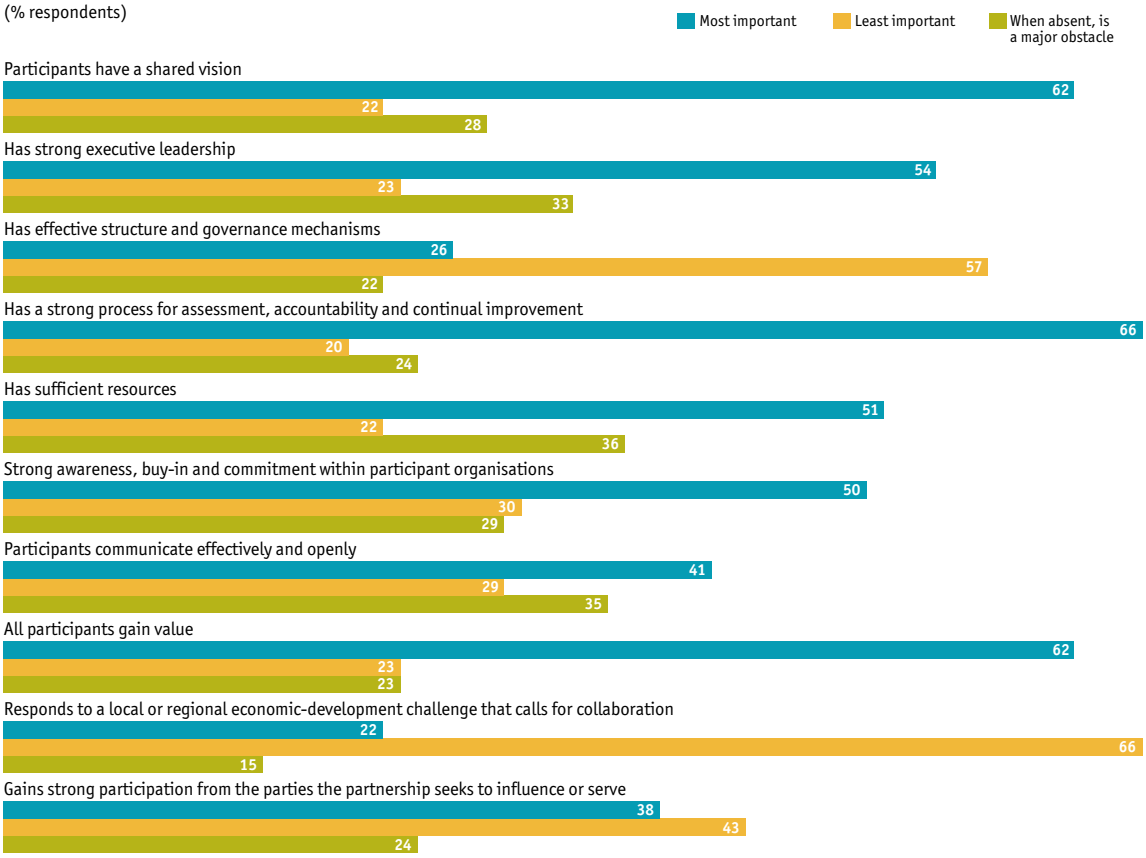
What types of institutions have your partnered with?
(% respondents)



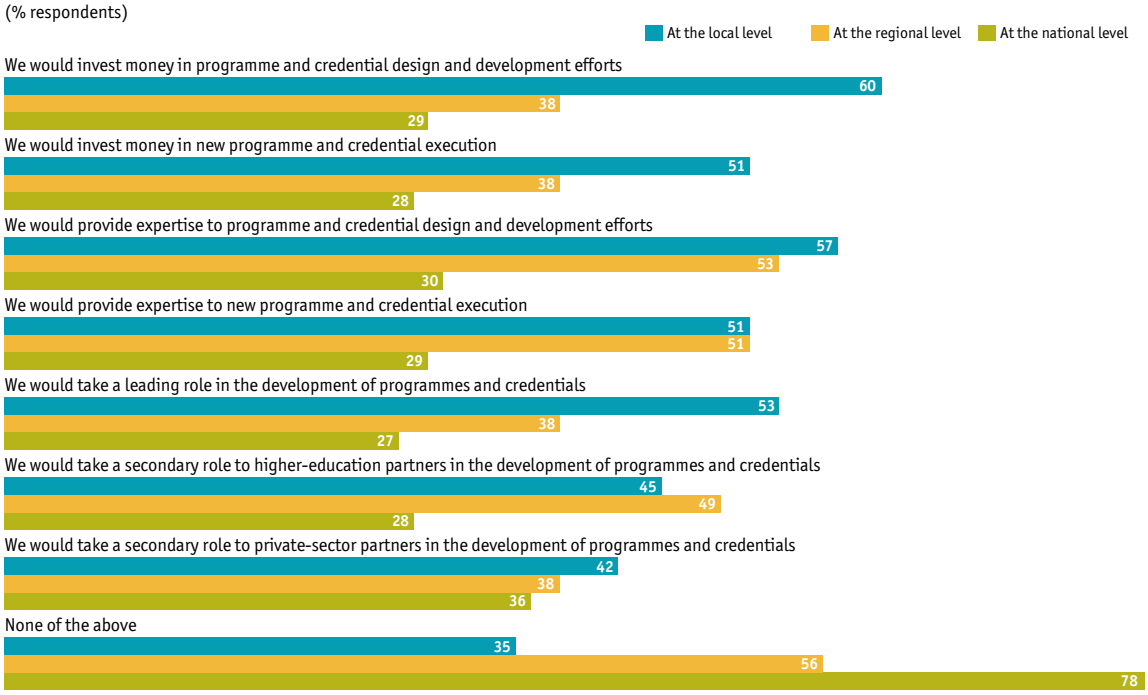
How successful is/was the partnership, in your opinion?
(% respondents)

To the best of your knowledge, what types of institutions would your organisation be most interested in partnering with?
Select one.
(% respondents)

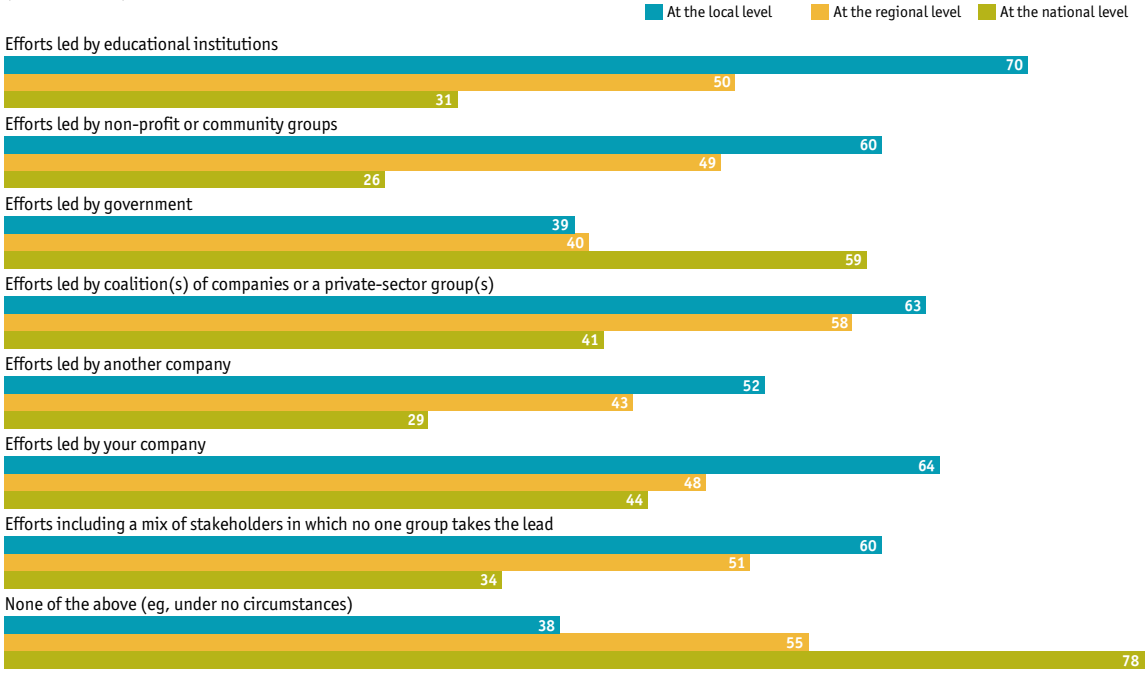
In your opinion, what are the key characteristics of successful business and higher-education collaborations to make post-secondary education more responsive to workplace needs?
Select the top three in each column.
(% respondents)



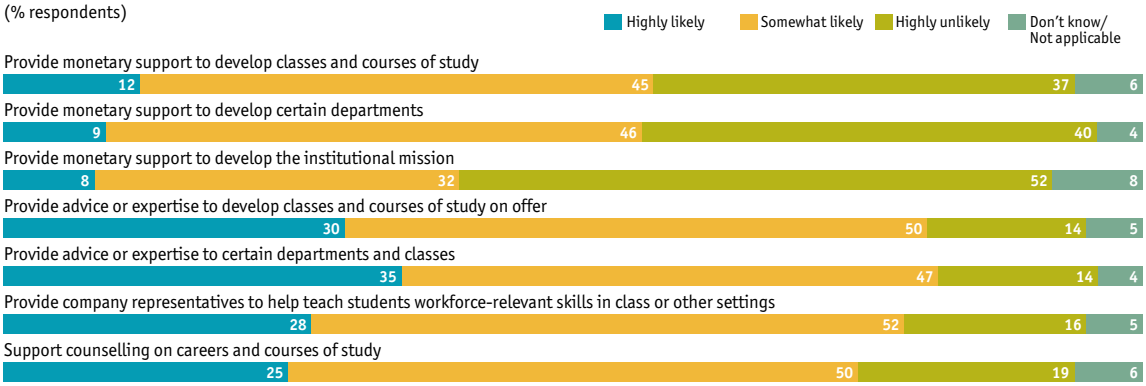
To the best of your knowledge, which of the following roles would your organisation be willing to play in the development of programmes and credentials that reflect workforce needs?
Select top two in each column.
(% respondents)



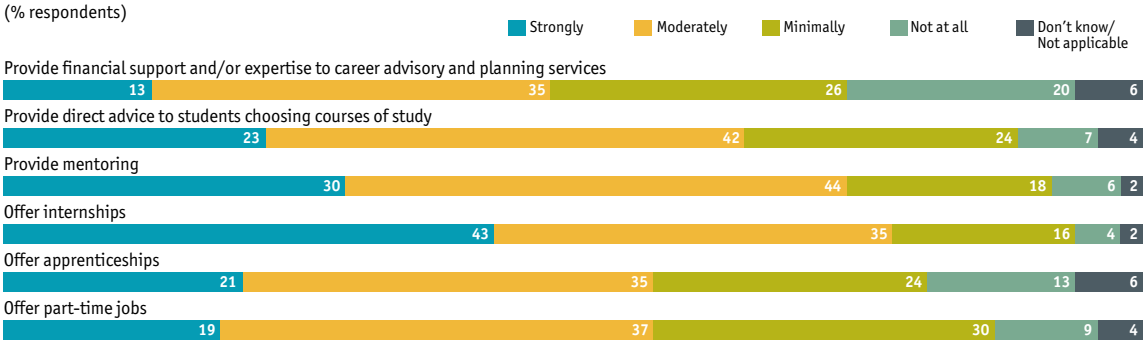
To the best of your knowledge, under what circumstances would your organisation be most likely to get involved in efforts to expand post-secondary degree, certification and credential attainment?
Select top three in each column.
(% respondents)



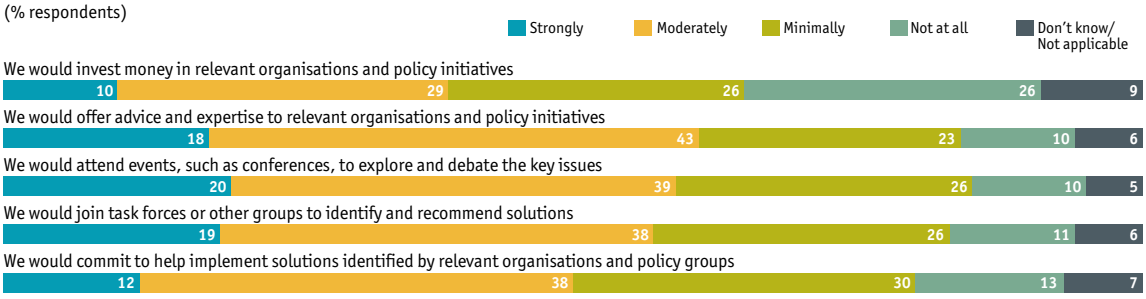
To the best of your knowledge, in what ways are your company most likely to help make teaching workplace-relevant skills central to the mission and operation of post-secondary institutions?
Select a response in each row on a scale from 'Highly likely' to 'Highly unlikely'.
(% respondents)



To the best of your knowledge, in what ways would your company be willing to help improve information and advisory services for local post-secondary students deciding on courses of study?
Select a response in each row on a scale from 'Strongly' to 'Not at all'.
(% respondents)

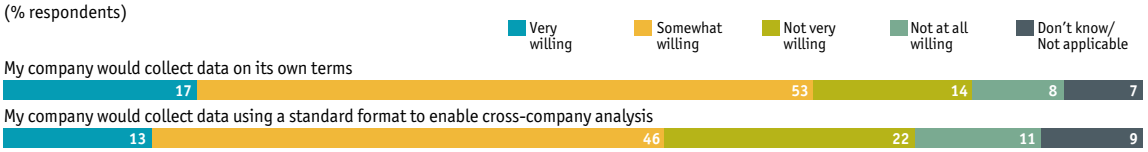


To the best of your knowledge, in what ways would your company be willing to, at the regional or national level, help make teaching workplace-relevant skills central to the missions and operations of post-secondary education?
Select a response in each row on a scale from 'Strongly' to 'Not at all'.
(% respondents)

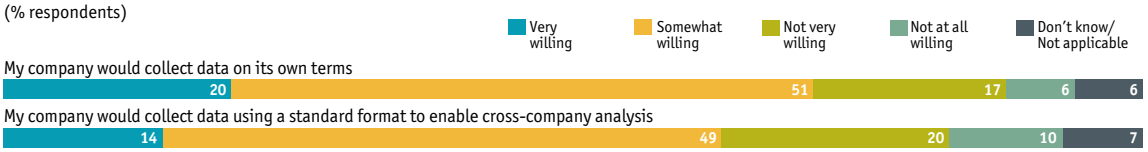


To the best of your knowledge, to what extent is your company willing to participate in efforts to use workplace data to assess educational effectiveness and improve education and training programmes?
(% respondents)

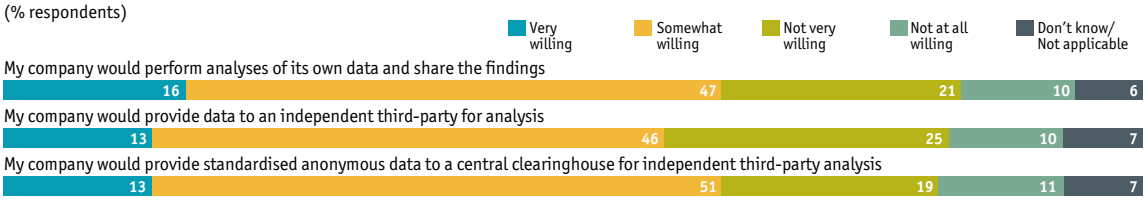
To the best of your knowledge, to what extent is your company willing to collect data about the workplace performance and success of former students?
Please select a response on a scale from 'Very willing to 'Not at all willing'.
(% respondents)



To the best of your knowledge, to what extent is your company willing to collect data about how employees acquire new skills on the job?
Please select a response on a scale from 'Very willing to 'Not at all willing'.
(% respondents)



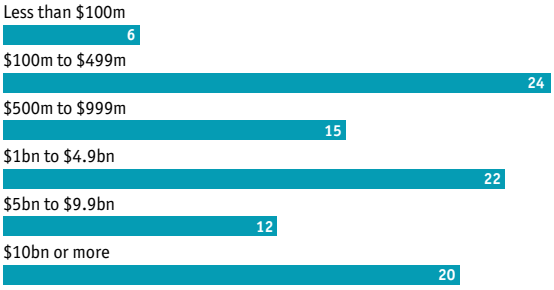
To the best of your knowledge, to what extent is your company willing to assist the analysis of data in order to improve higher education?
Please select a response on a scale from 'Very willing to 'Not at all willing'.
(% respondents)



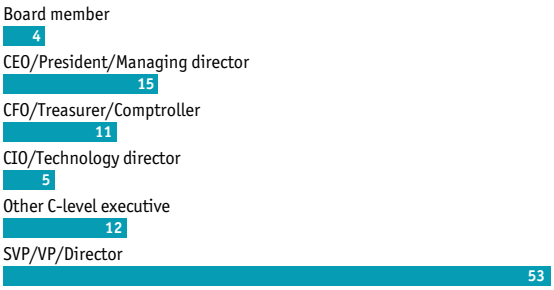
Are you familiar with your company's workforce-development strategy and higher-education efforts?
(% respondents)

Where are you personally based?
(% respondents)

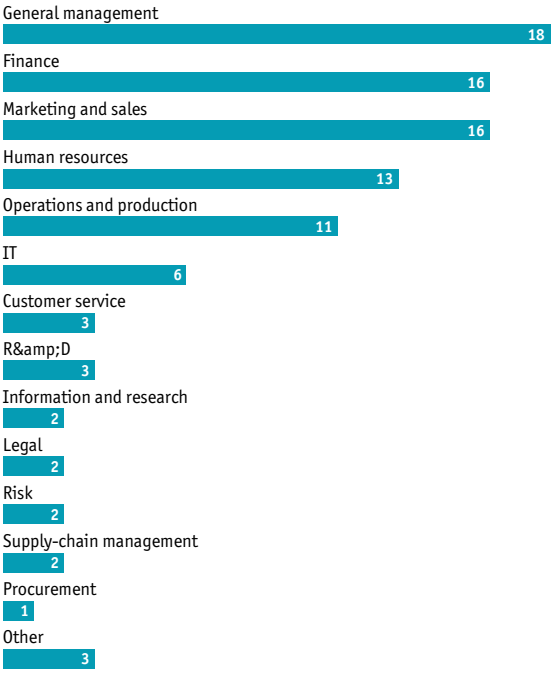
What are your company's global annual revenues in US dollars?
(% respondents)



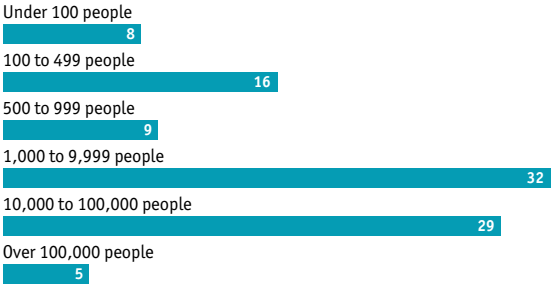
Which of the following best describes your title?
(% respondents)



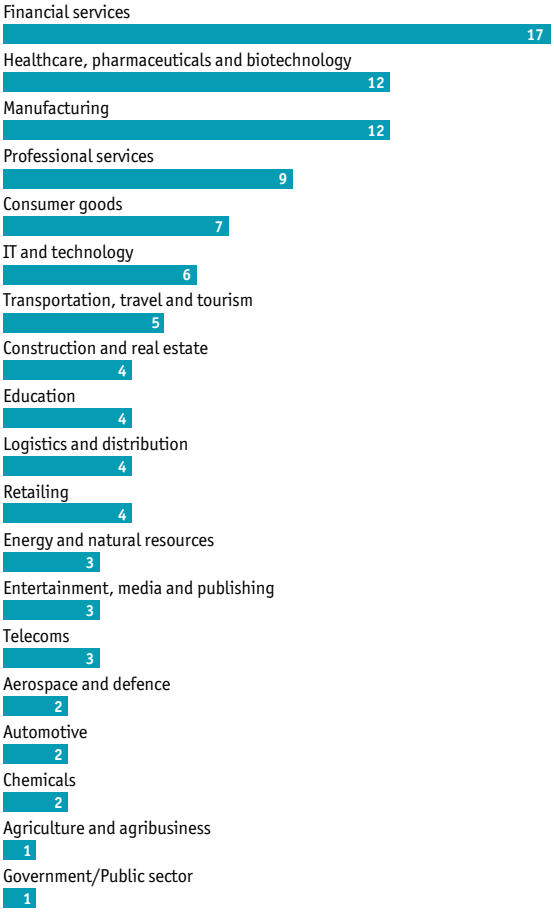
What is your main functional role?
(% respondents)



How many full-time employees does your company have?
(% respondents)



What is your industry?
(% respondents)



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