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Higher education has never mattered more, and information technology has more to contribute than ever. As organisations that focus on how IT can strengthen higher education, EDUCAUSE and Jisc concentrate on people as much as on technology.
Information technology has value because it can support and extend human capability, but its value also depends on people. People make IT work, hence our organisations’ focus on professional development. We work with first-time managers. We work with seasoned professionals. Moreover, as technology changes, as issues ebb and flow, and as institutional directions are refined, the profession and its needs change. Our roles, responsibilities, and competencies must adapt as well. No matter what the issue, we must develop people and their potential.

We began with the assumption that the challenges and competencies needed to be a successful professional in higher education IT were similar among our respective memberships. The task force validated this assumption. They went on to define a model for successful IT leadership. The characteristics they identified are of short-term value and of long-term significance.

Whether you are in early, mid-, or late career, take note of the characteristics cited. They apply equally to IT professionals and those seeking to hire the best talent. Those who possess these competencies lead in IT, but they almost certainly also lead in higher education. This model for IT leadership characterizes traits that lead to success today as well as tomorrow.

Higher education has never mattered more, and cultivating the best leaders is critical. We hope you find this model for IT leadership of great value.
Introduction

The higher education information technology (IT) enterprise has become complex. No longer simply responsible for provisioning IT infrastructure and services, the IT department increasingly helps reenvision business and service models—all in a context of cost and accountability pressures. IT is simultaneously more challenging, relevant, and exciting than ever; leading IT requires unique characteristics and capabilities. The IT leader of the future is one who brings strategic focus to the role of IT in higher education. But what qualities make for a successful IT leader in this environment? What traits are required to be a strategic player for IT on campus? What are the most significant gaps in required knowledge, skills, and abilities? How do we prepare the next generation to lead?

In the connected age, technology enables new global communities to learn and tackle problems together. In 2014, EDUCAUSE, the association of IT leaders in higher education in the United States, and Jisc, the national organisation supporting the use of digital technologies for higher education and research in the United Kingdom, convened a working group of 10 leading U.S. and U.K. IT leaders to define a set of desired technology leadership characteristics and capabilities, now and in the future. Members brought to the group a range of experiences that lent unique insight into these questions. Some members had been in academia for their entire careers and served as IT leaders or similar for many years. Others were relatively new to their organisations and to higher education, having spent their careers as chief information officers (CIOs) or in business-leader roles in IT. Some represented large research institutions, while others were at smaller institutions with single campuses.

The working group first presented its findings at the EDUCAUSE 2014 Annual Conference. This report outlines the findings and provides the higher education IT community with a new model for IT leadership to help professionals at all stages of their careers as we aim to ensure that technology plays a central role in advancing the core mission of the academic institution.

Changing Role of IT

The changing role of IT in higher education has been well documented. Information technology serves as the foundation for the business of the institution, supports new advances and approaches to teaching and learning, and provides new capabilities in research. IT is so much the fabric of the university that its presence is often not fully recognized.

In addition to an expanded presence, though, the focus in the IT organisation has shifted from a tactical to a strategic perspective, one that emphasizes the information rather than the technology part of “IT”. With the demand for IT only growing, understanding how IT leaders can best lead in these efforts is essential.

EDUCAUSE and Jisc joined forces in this effort, recognizing that a tipping point has been reached in the conversations around the strategic role of the IT leader.

What makes the higher education IT leader position very attractive?

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<th>Description</th>
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<td>Can have a huge impact on your institution and beyond</td>
<td>45%</td>
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<tr>
<td>Being a CIO is about setting and achieving a vision (i.e., fun!)</td>
<td>25%</td>
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<tr>
<td>Campus technology is exciting and rich with challenges</td>
<td>12%</td>
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<tr>
<td>Working collaboratively in higher education is deeply satisfying</td>
<td>10%</td>
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<td>Can create a work culture that empowers IT professionals</td>
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The role of IT leader is one that has evolved in context. Technology is changing rapidly; our world is turning upside down every few years. Not only do students come to our campuses with their own expectations for how the university will support the technology that they have come to rely upon and that they bring with them. There is also an expectation that higher education will interact with that technology through services and integration in classrooms and beyond. But this provides IT with an opportunity to
lead. In this environment, the IT leader has transitioned from a service role to a strategic role—instead of simply providing technology, the IT leader now helps determine future direction and provides understanding on how technology can best support both the business and academic sides of the institution. This has been coupled with a change in higher education provision and business models and in how higher education fits in today’s society—where expectations for outcomes, cost-effectiveness, responsiveness, and more have grown. As a result, IT leaders are no longer simply the product of higher education. They often pull from other sectors or look outside higher education for models and approaches that can be effectively applied in our institutions.

Key to this transformation has been a change not only in how we see ourselves but also in how others see us and the expectations they have for the IT leader role. Whereas in the past the IT leader may have been more autonomous, in today’s world it is essential to build relationships and collaborate across the institution to share what the IT leader does and to create a work environment that values IT employees and their role in helping IT impact the university in an important way. Unlike other executive-level positions in the university, IT leaders must deal with constant flux because of the changing nature of technology, and they must integrate the needs and tools of the end user in support of the institution and its decision making. Also unique to IT is the level of exposure. If IT works well, it is invisible; if it doesn’t, everyone knows about it. Because of that, IT leaders are often under a high level of scrutiny.

Understanding how to be successful in this environment and how to share that information in a useful way is no easy task. In approaching this topic, the working group asked themselves, “How do we put together something that is meaningful and practical for a relatively diverse audience?” Although there was agreement that it would be fairly easy to come to consensus about the traits needed for a successful IT leader, the group also agreed that the challenge would be in sharing the traits in a way that explains how they work together, how they are used, and more importantly, how they can help people who are interested in moving in IT leadership. The following is the result of the group’s deliberations and an attempt to provide an answer to those questions. IT is often still a black box—there is a risk if we don’t paint the picture of how IT touches so many different aspects of our work and the value we provide key decisions will be made outside of IT. This document is an attempt to help position our profession where we are building a future in which the IT leader has a role in these key conversations.
The CIO Position is Fragmenting
The shifting technology landscape has created a plethora of job titles for fundamentally the same role, instead of evolving into one cohesive position. For example, job titles such as CIO, chief technology officer, chief digital officer, IT director, and head of IT are becoming more common and often being used interchangeably.

To avoid confusion, we use the term “IT leader” in this report to refer to the highest-ranking position that deals with IT in an organisation. Whatever the job title, it’s crucial for the IT leader to have a seat at the top table. Often, IT leaders have to respond to a strategy created without them, and it is much harder to reach the full potential of the role if they are not involved in the important, strategic discussions. Crucially, though, it is a missed opportunity for the institution, as they will be addressing issues without knowledge of how technology can help.

Perception of IT in Higher Education
As IT has moved from being a novelty to an essential, expected element of the university, it risks being overlooked as an operational unit. IT leaders must work in the realm of possibilities and ensure that IT provides strategic advantage. Any work on an IT leader’s career map needs to be done in parallel with efforts to change how the business—in this case, higher education—perceives the role. An institution’s leadership can often fail to grasp what IT could mean for the business and truly understand how much of the fabric of any organisation IT has become. This perception of IT is often shaped by its traditional role around the development, provision, and support of the hardware and software. This is a significant barrier to IT moving towards a stronger role as a strategic partner and a transformational part of the business. Does this reflect how IT leaders are perceived by other members of the leadership team? Are they regarded as true members of the leadership team?

Underlying technological shifts in personal, professional, and academic life provide a compelling opportunity for IT leaders to reshape the image of IT and their own role within the institution. The IT leader can achieve this through a number of ways.

Recurring Themes
A number of issues reappeared time and again during the course of our discussions. We have summarised the main points of our discussions on these issues below in the hope that it provides some useful context to the findings of the project.
Technology in Higher Education: Defining the Strategic Leader

Recurring Themes

Thad Lurie, Chief Operating Officer, EDUCAUSE

I’d always had an inkling that CIOs understand the organisation’s business from a holistic point of view. I was given a chance to put that to the test through the process of becoming a CAE (Certified Association Executive). I attended a three-day “boot camp” program, during which we spent time covering and discussing each of the 14 domains of expertise that would be required to pass the exam. The program was attended by many other types of executives, representing membership services, conferences, policy—all across the board. The interesting part was seeing exactly how the knowledge of a technology executive translated; we deal with almost all aspects of the business on a daily basis and cannot afford to limit our vision to a single silo. Many executives from other domains had deep expertise in one or two areas but surprisingly limited facility in a number of other topics. I exited the program feeling confident of two things: successful technology executives understand the business, and understanding the business is necessary to being a successful technology executive.

» **Campaign for a seat at the top table:** Clearly demonstrate how IT touches and provides value to many aspects of the institution. Executive peers often have an incomplete understanding of IT and technological issues, and the IT leader needs to paint a compelling picture of the value IT does and can bring.

» **Speak their language:** A perception often still exists at the board level that IT leaders are technologists alone, and there is an unease with the language of technology. Don’t start by talking about the technology. Start by talking about the business value.

» **Coach executive-level staff:** No matter how well an IT leader mentors IT staff, if IT leaders aren’t coaching campus leaders outside IT, they will face significant barriers to success.

» **Build credibility:** Deliver on the promises you make, and colleagues will trust you. “Talk the talk and walk the walk”.

How the IT leader is perceived and what role the leader can and should play is a continuum, and your progress along this scale will vary depending on your institution’s development and needs. Regardless, the changes in IT and in higher education do necessitate a shift in the role of the IT leader and a move towards a broader role in support of organisational goals. See more on this in the next recurring theme.
Transitioning from an Operational Focus to a Strategic One

As IT leaders move into higher levels of the organisation, one of the most significant changes and challenges is how they spend their time. Less time is spent on purely operational firefighting in order to dedicate more time to working on strategic planning activities.

In more junior roles, IT leaders might spend, for instance, 80% of their time on operational aspects and being responsible for delivery, with only 20% of their time dedicated to strategic work. It is important to equip potential candidates for IT leadership roles to make the leap from managing the day-to-day running of IT services to managing strategic relationships, which in turn will help demonstrate the value of IT to the institution.

In the change from being a manager to becoming an IT leader, the focus shifts to showing relevance, building relationships, asking pertinent questions to get issues on the table, and bridging the conversation to how technology can play a role in addressing a particular institutional issue and making it happen better, faster, or cheaper. IT leaders must work in the realm of possibilities, knowing that any promises made will be followed with effective delivery from the strong IT team they have built.

However, this move from away from the operational day-to-day running of services is situational. The group recognized that in smaller organisations, for instance, the IT leader may be more closely involved in operational aspects; in larger organisations, they may not deal with any operational details. It depends on the context of the organisation.

Paul Saunders, CTO, University of Dundee
I had accepted an internal promotion within my organisation and was moving to our Corporate IT Shared Services group. I was moving from being a big fish in a small pond to a somewhat bigger fish in a really, really big pond. The stakes were higher, the scope was much larger, and the level of politics was frightening. The president of the division that I was moving from took me out to dinner for some guidance before I left.

“What is the biggest challenge you have ahead of you?” he asked over dinner.

I thought for a moment and then replied, “We have some really old SUN equipment that needs to be replaced and…”

“No, no, no,” he retorted. “You are thinking like a techie. You are not a techie anymore. How many people are in your new team?”

“About 30.”

“You have one job and one job only,” he said, “and that is to make those 30 people WANT to do what you NEED them to do. You can beat people in the short term but it isn’t sustainable. You need to inspire them. You need to motivate them. You need to LEAD them.”
The Importance of a Technical Background
In today's environment, how important is it for the IT leader to have a technical background? Our working group was split evenly on this question. One side of the argument held that it's hard to lead IT if you don't understand what IT does and how it can benefit the organisation. IT leaders without a technology background may find it challenging to assess and evaluate complex technology issues. IT leaders need to understand the business of higher education, both academically and administratively, but they are also all about the technology; without the technology, their roles and departments wouldn't exist, and, remember, the buck will always stop with the IT leader on technology decisions.

The counterargument was that IT is so broad and diverse that it isn't possible to understand all of it in detail. Those with a business-orientated background tend to find leadership and communication skills easier to grasp than do their more technical peers. IT leaders cannot master all the technical issues, so it is a priority for them to develop a strong team with the necessary technical competencies. There is a trend towards delivering technical services from external providers (e.g., cloud services); therefore, today's IT leader role is more about the interplay of people, process, and technologies delivering strategic and operational benefits to the institution. It is increasingly impossible for one person to be fully conversant with all aspects of IT, and it is more valuable for the IT leader to understand IT's strategic potential, to build an effective team of specialists, and to know how to get the best out of them. A nontechnical background can often better prepare individuals to be IT leaders because the role now is more about relationships, planning, and budgeting than just about the technology. People from purely technology backgrounds may find these skills difficult to acquire.

Overall, though, the group agreed that the most important characteristics for an IT leader are an appreciation of technology’s value, the ability to ask the right questions, an understanding of how IT can provide a strategic advantage, and the ability to listen and to understand what is heard.
A Model for IT Leadership

We identified 10 key roles played by the IT leaders of the future. Figure 1 is a visual representation of the roles and how they interconnect and influence each other. Over the following pages we give greater expression to what each of these roles entails and our understanding of the essential skills required to perform them. Full descriptions of these skills can be found in the Appendix.

Figure 1: A Model for IT Leadership
Leadership Roles: Overview

At the core of the model is the role of the Strategist. IT is important to every part of the institution. To be an effective strategist, the IT leader must understand the organisation and provide both information systems and technology leadership that bring to life transformation across the organisation.

The inner ring represents three primary roles that successful IT leaders assume. These roles take time to develop and are perhaps the most difficult to achieve. They are interdependent and are the most valuable roles that an IT leader plays.

1. **Trusted Advisor:** The IT leader establishes trust and credibility by building a solid track record—they follow up the vision for IT with effective delivery and execution.

2. **Visionary:** Communicates and promotes a clear vision for IT and persuades stakeholders to support future vision.

3. **Relationship Builder:** Working in parallel with winning trust from the rest of the organisation, the IT leader builds relationships and fosters links with a wide range of stakeholders, both within and outside the institution.

The outer ring identifies six discrete roles that an IT leader will play. Whereas the primary roles are typically ones that a successful IT leader will consistently—and simultaneously—play, the discrete roles may only be needed at specific times. Many of these roles stem from and relate to the primary roles.

1. **Change Driver:** The IT leader uses courage and resilience to overcome barriers and deliver the desired organisational transformation. There are two aspects of a change driver: **Executor** and **Navigator**. The navigator relates to the visionary primary role and refers to building trust and credibility when navigating the organisation and colleagues through a change process. The executor relates to the trusted advisor primary role and sees the change through and makes it happen.

2. **Master Communicator:** As a master communicator, the IT leader understands when and how to adapt messages differently for different people. The leader further knows how to tell a story, share a vision, and be “multilingual,” capable of speaking to technical audiences as well as to nontechnical, business, researcher, and other audiences.

3. **Promoter/Persuader:** Once an idea is formed of how best to support positive change within the institution, the IT leader works to influence a wide variety of stakeholders and convince them that the solution, process, or technology is correct.

4. **Coach:** The IT leader is a coach for leadership, stakeholders, and IT teams so that all are appropriately aware of and able to exploit the technology’s potential.

5. **Team Builder:** It takes a high-performing team and strong coalition to get results; the IT leader builds consensus and inspires.

6. **Ambassador:** As ambassador, the IT leader promotes a positive image of IT. Through contextual understanding, the IT leader is aware of political sensitivities and maintains a broad and even-handed view.

Finally, on the outside is the anchor role of **Human**. The IT leader should be authentic and accessible and keep a work/life balance. It is important to remember that the process of becoming and being an effective IT leader is a marathon and not a sprint.
Strategist

Technology is one of the few functional areas that spans the organisation. It’s what makes being an IT leader both complicated and exciting.

Because IT leaders manage a range of critical services across the organisation, they are in a unique position to reimagine operations, innovate, and influence future developments.

Technology is changing every day with processes that at times are very complex. It is the IT leader’s job to demonstrate IT’s value to the institution. As an effective strategist, the IT leader has a strong understanding of the organisation’s short- and long-term goals and aligns IT to its overarching strategic objectives. Working strategically can also mean selling an idea to the organisation, building momentum and creating an opportunity for that first pilot, or working with colleagues to find the budgetary means to support the idea.

There are three key aspects to the role:

1. **Understand the Organisation**: The IT leader offers the leadership team expertise by discussing technology issues in terms of the business value they bring rather than in technical terms. A strategic understanding of the organisational context (internal and external) informs the IT solutions that are proposed. The strategist further understands the organisation’s operating model, structure, and power bases and has a “read” of the executive-level targets and priorities, providing the IT leader with leverage for ideas and execution.

2. **Provide Information Systems and Technology Leadership**: The IT leader provides information systems and technology leadership to the institution through understanding and communicating the relevant technology solutions currently available and helping the institution make good long-term choices to meet its strategic objectives. Distinct from other executive-level peers, the IT leader can act as a translator to show how technology creates options and possibilities for the institution and how it can be utilised to maximum benefit, for example, in the institutions’ marketing or financial activity.

3. **Bring Transformation to Life**: IT can effect organisational, widespread change, transforming the way an institution operates.
Building trust is a key characteristic of a true leader.

The trusted advisor establishes credibility by listening, providing feedback, and building a solid track record, following up the vision for IT with effective delivery and execution. People trust that you are taking them in the right direction and are confident that the IT service can deliver, setting the right conditions to ensure buy-in for future ideas.

The IT leader’s ultimate value to the organisation is judgement and wisdom, which come from a combination of experience, knowledge, and skills. Colleagues trust the IT leader to use critical thinking skills and good judgement to offer sound advice. The more developed the role of trusted advisor, the more institutionally valued the IT leader position will be, which in turn enables the ability to drive transformation across the organisation. Becoming a trusted advisor is difficult but essential; it requires character, stature, and time.

What skills do you need for this role?

- Ability to Build Relationships
- Ability to Influence
- Ability to Persuade
- Ability to Set and Manage Expectations
- Accountability
- Business Acumen
- Credibility
- Critical Thinking
- Diplomacy
- Good Judgement
- Long-term Perspective
- Technology Awareness

Eileen Brandreth, Director of University IT, Cardiff University

In my early career it was clear to me that my role was to specify and develop technology to “fix” business problems. I assumed that as I took on management and then leadership roles, the problems would increase in scale and complexity but that I would be well placed, using my carefully selected teams of IT developers, to find innovative technical solutions to match them. It wasn't until some years later while working as a CIO for a very large insurance company, faced with a critical need to reduce their month-end closure period in a complex and outsourced legacy situation, that something very simple but powerful dawned on me. The answer to the problem was not to fix the technology: They simply needed to approach the thinking behind their existing process in a different way. With trepidation I suggested this and was absolutely amazed when, after the board took a few seconds to consider what “the woman from IT” was saying, they universally embraced the idea and, less than one month later, had achieved the impossible.
Visionary

The visionary is a thought leader for the institution and a catalyst for innovation.

In this role, IT leaders scan the horizon for emerging trends and themes and put to use their perceptiveness and good judgement in order to identify priorities and develop new ideas. IT leaders create a clear vision for IT by further combining their knowledge of current and future technology solutions and trends with an understanding of the business and academic dimensions of the institution. They have a clear vision of how to steer the ship and how to stay the course in the long term. Once a clear vision has been established, IT leaders then use master communicator skills to win over colleagues from across the organisation (see below for more on this role).

What skills do you need for this role?

» Ability to Build Relationships
» Ability to Inspire
» Credibility
» Foresight
» Innovative Thinking
» Long-term Perspective
» Negotiation
» Strategic Perspective
» Technology Awareness
» Written and Oral Communication Skills

Mark Askren, CIO, University of Nebraska–Lincoln

Our institution has very publicly stated that we will move from “good” to “great.” IT has to be able to deliver targeted innovation that allows us to scale up because our IT resources in some areas are barely “good” compared to those of many peers. Developing a vision that we will be an active part of the larger community within collaboration organisations such as EDUCAUSE and Internet2 was a first step. In order to be at those tables, we needed to move past our culture of heads-down self-reliance and accept that we will be more successful if we partner with organisations that are more successful than we’ve been to this point.

Collaboration and the increased use of cloud and other third-party services come with a price: decreased local control. But controlling local commodity services that don’t provide strategic differentiation is not where we need to spend our time and energy. So we are several years into a strategy where we focus on best practices and look to scale up and drive costs out of core commodity IT services. Reallocating resources from “run” to “grow” and “transform” is our only solution in the near- to midterm. This type of broader collaboration with extended horizons is straightforward but not easy. We are making progress, but it requires constant communication and reinforcement so that we don’t slip back into our old ways.
Relationship Builder

In conjunction with the trusted advisor role, a large part of an IT leader’s job is relationship building.

An executive-level position such as an IT leader will inevitably be political in nature, and fostering key relationships and developing personal contacts is a crucial facet of the position. The IT leader needs to work with a wide range of stakeholders, both within and outside the institution, and being able to identify whom to build relationships with is essential, not only for current projects but for long-term influence. Spending time building these relationships helps IT leaders get issues on the table, gain supporters, and bridge conversations to how technology plays a role in providing solutions.

What skills do you need for this role?

» Ability to Build Relationships
» Ability to Identify and Nurture Talent
» Ability to Inspire
» Ability to Persuade
» Ability to Promote Collaboration
» Ability to Set and Manage Expectations
» Technology Awareness
Team Builder

It takes a high-performing team and strong coalitions across the institution to get results. To achieve that, the IT leader as team builder inspires people from across the organisation to work together toward a common goal. This role is built on the fundamental belief that if you work together (even if it means giving up some control), you can do more than you could do individually. As such, the team builder works to support what is best for the organisation as a whole, which may not always be best for the IT department or prove popular with the IT team. Through building coalitions outside IT, the team builder also acts as a connector, bringing together academic and service colleagues with related needs to find shared solutions and economies of scale.

IT leaders won’t be able—and don’t necessarily need—to master all the technical issues related to any one solution, so it is a priority for them to develop a strong team with the necessary technical competencies. Without this kind of backup, IT leaders will not be able to extract themselves from day-to-day tasks and free enough time to engage in working with the rest of the business.

Team builders provide an academic-to-business-to-technologists channel for the IT team and at times act as a protective buffer from organisational politics.

**What skills do you need for this role?**

» Ability to Build Relationships
» Ability to Identify and Nurture Talent
» Ability to Influence
» Ability to Inspire
» Ability to Persuade
» Ability to Promote Collaboration
» Ability to Set and Manage Expectations
» Critical Thinking

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**Kathy Gates, CIO, University of Mississippi**

An early experience in this area came many years ago when I was the student color-guard captain for the marching band at Louisiana State University. I quickly realized that this role was not about my individual performance but rather about getting group members to aspire to excellence and to, quite literally, move together. The principles are the same in IT organisations.

Technology today is far too complicated for one person to know it all. We must establish high-performing teams where technical employees are trusted and valued. Ironically, some of my most ingrained beliefs about being a good leader have come from being in subordinate positions where I experienced frustration with the leadership style. Lessons learned in the trenches include giving credit where credit is due, freely sharing information that is needed to perform one’s job, creating a collaborative decision-making process, and being fair. The most powerful lessons have come from working with and for a handful of professionals who were truly extraordinary in terms of their vision and intelligence, as well as their ability to inspire confidence. They never wore their credentials on their sleeves but rather were humble and always had a good sense of humor, making the workplace fun. They knew how to build great teams and empower people to do their jobs, which is critical for a successful CIO.
Coach

The IT leader coaches other leaders, stakeholders, and IT teams in different ways so that everyone is appropriately aware of the benefits of technology and is prepared to exploit that potential for the benefit of the organisation.

Coaches use their expertise to facilitate the thinking and forward action of others. A coach doesn’t just give advice, or even serve to educate or influence, but rather brings out what already exists in terms of creative thinking and courage to act. As such, the coach also identifies opportunities for the person or team being coached to step into a situation to reach a stretch goal and widen their network. In addition, a coach helps enable self-reflection in a non-judgemental way.

» For executive-level staff: Demonstrates the opportunities IT can provide in aligning with broader institutional goals.

» For problem-owners and stakeholders: Works to make clear the potential and impact of technology by focusing on how organisational problems can be resolved and opportunities can be made available in innovative ways through IT strategy.

» For IT teams: Coaches, mentors, and nurtures talent within IT teams and builds balance and respect for diverse talent. Like the conductor of an orchestra, the IT leader brings out the best of both individuals and groups in a team, helping create a highly effective team.

What skills do you need for this role?

» Ability to Set and Manage Expectations
» Business Acumen
» Critical Thinking
» Cultural Awareness
» Innovative Thinking
» Technology Awareness
» Written and Oral Communication Skills

Nigel Cunningham, Deputy Director, Finance and Information Services, University of Ulster

I always try to understand the organisational rather than technical problems in the university. Doing so requires existing knowledge of the business and comes through contacts and relationships with individuals and groups who have direct insight into particular areas of concern inside and outside the university.

Through formal and informal contacts I acquire an appreciation of the views of the key stakeholders concerning the problem(s) and how best to go about resolving them through the application of IT. Many issues may not be amenable to a technical solution, and I often must warn against inappropriate use of technology—the “silver-bullet mentality.” The transfer of IT knowledge to the senior management team requires me to coach them through the information systems strategy process. Some senior executives are still uncomfortable with the digital era.
As ambassador, the IT leader promotes a positive image of IT across the organisation and facilitates mutual understanding between IT and the business and academic dimensions of the institution.

The ambassador is aware of political sensitivities and maintains a broad and even-handed view. Through continuously developing and maintaining relationships, the ambassador is able to form key alliances within the organisation to support decisions.

Ambassadors also represent IT staff and the IT profession overall, acting as an advocate for technical employees, making sure reward structures are competitive and drawing appropriate attention and recognition to work done in order to ensure that IT staff are valued by the organisation.

Ambassadors serve as champions for the work that IT professionals do, while keeping in mind the big picture and working for the greater good of the institution. They evangelize the role of information technology, changing the perception of IT as just a cost of doing business to IT as a provider of value to the organisation. They look for opportunities to communicate IT’s positive impact and ensure that users across their institution hear about IT’s successes.

**What skills do you need for this role?**

» Ability to Build Relationships

» Ability to Inspire

» Ability to Set and Manage Expectations

» Accountability

» Business Acumen

» Credibility

» Cultural Awareness

» Diplomacy

» Foresight
Technology in Higher Education: Defining the Strategic Leader

Change Driver

As a visionary, the IT leader is able to envisage a future state and gain support from key stakeholders to empower action across the organisation. As a change driver, the IT leader moves to the next stage and uses courage and resilience to overcome barriers to deliver the desired organisational transformation. Remaining robust, the change driver challenges the status quo.

There are two aspects of a change driver: executor and navigator. The navigator builds trust and credibility by navigating people, process, and technology through the transformation. The executor sees the change through, providing guidance and encouragement to colleagues at every stage until all stakeholders are satisfied and the project is delivered. This can be particularly valuable at the end stages of a project, when IT staff are tired and may have doubts about the value of the project in the heat of the implementation. This is where executors play a crucial role. They know this is normal and help people at all levels through the change, as well as provide additional navigation after implementation to gain full acceptance.

What skills do you need for this role?

Executor
- Ability to Influence
- Ability to Persuade
- Ability to Set and Manage Expectations
- Critical Thinking
- Diplomacy
- Foresight
- Innovative Thinking
- Strategic Perspective
- Technology Awareness

Navigator
- Accountability
- Business Acumen
- Credibility
- Critical Thinking
- Cultural Awareness
- Foresight
- Strategic Perspective
- Technology Awareness

Joanne M. Kossuth, Vice President for Operations and CIO, Franklin W. Olin College of Engineering

I was assigned additional operational duties at my organisation, as I had been there through its start-up. In the course of reviewing the actual work that now had to be completed and the resources to complete the work, it became clear that reorganisation was needed to meet the current requirements of the institution. Working with human resources, we planned and executed staff moves and provided IT packages to the staff. The staff, in general, responded very professionally. The challenge was in allowing the entire community to move forward after the events. I never truly understood "open door" until that time. Despite planned meetings with departments to explain the moves and to calm concerns regarding future moves, the community still wanted more. I ended up having an open door for two months to meet with anyone who wanted to talk. This may seem like a long time, but, in the end, anyone who had something to say was heard and had an opportunity to come to individual terms with the reorganisation. The change was not easy, and communication was key.
Promoter/Persuader

Once an idea is formed, the IT leader works to influence a wide variety of stakeholders and convince them that the solution, process, or technology is correct.

By winning over stakeholders and gaining their support at the outset, the IT leader removes a significant barrier to success and enables the IT team to deliver the solution with less difficulty.

The IT leader employs different methods to successfully promote an idea to stakeholders: the process of persuasion takes time and involves playing the long game, whereas the process of promotion can be more immediate and appeals to hearts and minds.

What skills do you need for this role?

» Ability to Build Relationships
» Ability to Influence
» Ability to Inspire
» Ability to Set and Manage Expectations
» Business Acumen
» Credibility
» Cultural Awareness
» Diplomacy
» Technology Awareness
» Written and Oral Communication Skills

Tom Andriola, Vice President and CIO, University of California, Office of the President

After a series of acquisitions, we had a lot of duplication and redundancy in our organisation, both functional and IT. The board was very disappointed in our senior management for not pushing harder to achieve the synergies that were promised in the case to make the acquisitions. With that organisational sense of urgency, I seized the opportunity to propose the program I knew we needed to run to eliminate the duplication, bring the organisation to standardize on common processes, and achieve the cost savings we needed to remain competitive.

The proposal itself was pretty straightforward, as I had been a part of similar initiatives with other organisations. However, now, as a senior executive, I needed to be the one selling the idea, using my credibility to create the faith that we could execute such a complex initiative and influence multiple executive levels to support it. This was not done overnight and certainly required every ounce of not only my will but also my political skills to bring this initiative into enough of a consensus that we could get things moving.
Master Communicator

In the higher education context it is important for IT leaders to be able to translate the benefits of an IT solution, process, or technology for a nontechnical audience and adapt their message accordingly.

Serving as a translator, the IT leader is the mediator between the technical expertise of the IT team or external providers and the internal stakeholders and decision makers. In this capacity, the IT leader communicates not just about the technology but about its value. As a master communicator, the IT leader speaks the appropriate language to make IT relevant to a variety of audiences.

To effectively promote their vision for IT, IT leaders must be able to use their communication skills to tell a story, share a vision, and influence and persuade stakeholders. IT leaders should encourage positive communication for the IT department’s work by managing their portfolio of projects and sharing it to remind constituents of IT’s value.

What skills do you need for this role?
- Ability to Build Relationships
- Ability to Inspire
- Ability to Persuade
- Ability to Set and Manage Expectations
- Credibility
- Cultural Awareness
- Diplomacy
- Oral and Written Skills
- Technology Awareness
How to Use the Model

We invite individuals and institutions to use this model to assess their own capabilities, identify new talent, and chart a path for the future. There are a number of ways that the model might be used for professional development, assessment, planning, and more. Below are a few examples of how the model could be used by individuals, in teams, and across the institution.

Individuals
As an individual, consider rating yourself on the various elements of the model. Are there experiences or examples that demonstrate your competence in a particular area? Are there new opportunities that would help you grow in specific areas? Consider the following potential applications:

» Both aspiring and current IT leaders can use the model as a professional development planning tool to assess their own skills profile, identify gaps for development, and ensure they get the breadth of experience to help them make the step up
» The model can serve as a reference guide in one-to-one coaching
» Current IT leaders may use it when developing IT strategy, as a roadmap to the roles and skills that may be necessary for specific IT projects

Teams
It may not be possible for any one individual to possess every skill represented in the model; however, are the critical competencies present among your team members? The model might be used:

» As a skills-assessment tool for use across a team or department
» To help create a team profile, identifying strengths and weaknesses of the institution's IT service

Institutions
As you communicate about IT to others at the institution, consider using the model to describe the role of an IT professional. It may help others focus more on the leadership capabilities that IT staff possess rather than on the technology, building their understanding of IT as a profession. Institutional uses of the model might include:

» A tool to help IT leaders coach institutional leadership on using IT
» An aid to spot and bring on new talent, as well as to identify current professional development needs
» A reference guide to create job descriptions for IT leadership positions
» A guide to a fuller understanding of the role IT and the IT leader can play in helping an institution achieve its strategic objectives
» A tool for curriculum design when creating academic programmes for fast-tracking future IT leaders

These are just a few potential uses for this model. The characteristics that the model describes will help expose the value of IT and the IT organisation, both in today's higher education environment and as we move forward into tomorrow's.

Chris Wanley, Chief Information Officer, Aston University
The model brings together all the different strands of IT that need to be in place for IT to align with the organisation's strategy and meet its needs. Early in my career I saw a number of projects that were unsuccessful because business requirements were agreed upon before involving IT, and different parts of IT and its suppliers weren't aligned and working together.

I remember trying to change this and asked some difficult questions, and was fortunate to have a director who encouraged those questions and to lead a discussion on this at the steering board. At the time it was scary but with this model those potential failures would have been avoided.
As was mentioned at the beginning of this report, one of the working group’s top concerns was to develop a document that wouldn’t simply define the successful IT leader but would also guide those who are interested in IT leadership and share what would be needed from them to move into a leadership position.

The role of the IT leader is changing; we need to equip people to build the necessary skills now. If we don’t start developing leaders and giving them steps to build on, the IT leader—at least as described in this report—may be in jeopardy. Often this comes down to the fact that people don’t often have a clear idea of the skill sets they already have or of ones they may need in the future. For IT leaders, the picture has been murkier than for most, but in this document we have aimed to give a clearer view. Ultimately, however, this document serves simply as a signpost to help set professionals on this journey. The decision of whether to become an IT leader is such a personal decision that, in the end, it is up to the individuals to learn from what has been presented here and navigate opportunities and a way forward for themselves. There are no right or easy paths forward, and the road to leadership may not be a direct one. If, however, upon learning about the various roles an IT leader plays and what those roles require, you are still (or perhaps are newly) interested in pursuing this position—whether as a short- or a long-term goal—some guidance on how to take steps in that direction is provided below.

Aline Hayes, Director of ICT, Sheffield City Council

I’d been a middle manager for a few years, and there was a reorganisation that resulted in a promotion and much wider scope of work. I was now a senior manager and in a role that hadn’t existed before. There was no map or guide to tell me how to do this, and my line manager had his own very significant responsibilities. I found that there was massive lack of clarity in almost everything. All our processes needed some kind of overhaul, and we were doing some things for the first time. The amount of ambiguity and uncertainty were massive.

At my six-month review I reflected on this and described it as like being set adrift in a large body of water (I can’t swim). I had to learn to trust the water’s buoyancy not to let me down and to act despite some initial trepidation. In time I came to see the ambiguity as a positive, in terms of enabling a space for creativity. If there was no map, I could draw my own!

Making the step up still seems to be one of the biggest challenges for staff, and it isn’t something they can read up on or attend a lecture about—they have to experience it. Some never get past the fear, and it paralyses them. The ambiguity only increases the higher you go, so it can’t be avoided.
Understand the Position

This document aims to provide a clear understanding of what the IT leader role entails and the key skills necessary for that role. However, it may be difficult to really know what the IT leader does until you are in that role. By continually working to understand the position—whether through mentoring, speaking to current leaders, reading documents such as this one, attending leadership and skills trainings, and more—you will become better equipped to know if you are ready to take the leap from the mechanics of technology and the day-to-day running of our services to a leadership role demonstrating the value of IT to our universities.

Further, the institutional context and leadership profile for each institution are significant factors. The many roles an IT leader plays are not equally weighted in each institution. An institution with limited IT staff and budget may need someone focused on building teams and understanding technology, whereas an institution with a large IT department might need more of a strategist. And needs change over time; understanding what roles the position you are looking at calls for at that point in time is crucial—someone who might fail at one institution may be a huge success in another because they brought what was needed at the right time.

Most importantly, though, becoming an IT leader is not something that should be rushed. Let yourself come to this role when you’ve reached the maturity, confidence, and qualifications that are needed. It is possible to move too quickly too soon. It’s not a race to the top—it is about being successful in the position.

What prevents IT professionals from pursuing CIO positions?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too much time dealing with politics/power struggles</td>
<td>47%</td>
</tr>
<tr>
<td>It can be difficult to have work/life balance</td>
<td>22%</td>
</tr>
<tr>
<td>Would prefer to stay hands-on with technology</td>
<td>15%</td>
</tr>
<tr>
<td>Higher education IT challenges can feel overwhelming</td>
<td>14%</td>
</tr>
<tr>
<td>Sometimes CIOs have less clout than other C-level positions</td>
<td>3%</td>
</tr>
</tbody>
</table>
Understand the Barriers

Barriers can be personal or professional. Barriers such as limited vertical growth in one's current position can be remedied—by looking at positions that may help you move sideways, or even outside your immediate domain, in order to build skills, relationships, and insights into what might be needed to move up at a future point. It may mean that you will need to move to a different institution to follow your career—a decision that not everyone is willing to make. It is also a matter of knowing your own interests and limitations, for instance, if you are interested primarily in the technical aspects of the job, don’t go for a leadership position that requires strategy (or perhaps reconsider whether that position is the right job for you after all).

Barriers can be overcome. But without taking a close look at what barriers might be in your way, you won’t know how to do so.

Build a Career Development Strategy

Both current and aspiring IT leaders often lack a career development strategy that can support their aspirations. As mentioned above, there are multiple ways forward, and it is up to you to make your path. But the important thing to remember is that you can’t do it all at once. IT leaders—even seasoned leaders—will need to develop many (if not all) of these traits and skills throughout their careers. The right tools for doing that will vary based on what needs to be developed (e.g., technical or communication skills that may be learned via training versus something less “teachable” such as how to be an effective change driver) and the stage in one’s career. Although training can play a role, perhaps the most effective ways to build many of these capabilities is through mentoring. In rare times, a mentoring relationship may span years and serve as a career coach, but you will more likely have many situational and opportunistic mentors who serve different purposes at different points in your career development. Engaging with peers and with IT leaders through organisations such as EDUCAUSE and Jisc—as well as taking advantage of the various training, learning, and leadership opportunities such organisations offer—is a significant way to start building a strategy for your own path ahead.

<table>
<thead>
<tr>
<th>Which career barrier is the most challenging?</th>
</tr>
</thead>
<tbody>
<tr>
<td>There isn’t any room to grow, and moving isn’t an option for me</td>
</tr>
<tr>
<td>I’m viewed only in my current role rather than in my potential</td>
</tr>
<tr>
<td>I don’t want to be in a position focused on bureaucratic and personnel issues</td>
</tr>
<tr>
<td>I’m not viewed as having the skills or credentials for promotion</td>
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</table>

<table>
<thead>
<tr>
<th>Which career support below would be most helpful?</th>
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</thead>
<tbody>
<tr>
<td>A mentoring program with individual career coaching</td>
</tr>
<tr>
<td>A “learning the business of higher education” training program</td>
</tr>
<tr>
<td>Participation in a cross-training program to broaden your skills base</td>
</tr>
<tr>
<td>Self-awareness and interpersonal skills training, including public-speaking skills</td>
</tr>
</tbody>
</table>
Conclusion

In early 2014, EDUCAUSE and Jisc came together to address a common concern, one they felt to be relevant to higher education in the United States and the United Kingdom: that understanding the skills required by technology leaders in higher education was an issue often overlooked and one needing immediate attention.

The two organisations partnered on this project, without knowing what the outcome might be or whether their findings would be relevant in both countries, but with a strong agreement that attention needed to be paid to this important topic. During the course of the project, we have found significant common ground in terms of the demand and expectations for the role of the IT leader. At times our words and phrases may be different, but at the core the roles and skills identified in this report cross international boundaries.

Two major changes have helped in defining the strategic IT leader of today and tomorrow. The first is specific to higher education: There has been an evolution in the business of higher education, with institutions needing to adopt new models to stay competitive and focus on outcomes, cost-effectiveness, and responsiveness. The second has been experienced at all levels in society: the pervasive nature and rapid development of technology. Within a higher education context, technology’s expanded presence impacts all areas of an institution.

The IT leader is in a unique position at the centre of so much change, making this role both a challenging one and one that will continue to evolve in the coming years. The profession must be ready for both the changes and the opportunities.

Perhaps the greatest opportunity is for the IT leader to demonstrate the value of technology. Technology advances the institutional mission and the business of higher education. Regardless of the size or maturity of your IT organisation, we think the concepts discussed here will be relevant and useful. As your IT organisation moves to become a significant campus player, understanding the role of the IT leader will increase your institutional impact and enable your organisation to truly lead.
Appendix

Skills Glossary

One of the guiding aims of the EDUCAUSE/Jisc working group was to identify the most significant gaps in required skills and abilities for existing and emerging IT leaders. To do this, we began by looking at the various roles an IT leader plays and identifying the characteristics, skills, or attributes needed to fill those roles successfully. We found that there were some attributes that appeared again and again, and we concluded that they were fundamental for an IT leader to work within an institution to maximum effect.

For the purposes of this report, we use the word “skills” to encompass skills, general knowledge, and competencies. In addition, please note that some of the IT leader roles are dependent on the context (e.g., a smaller organisation may need to emphasize the more technical roles, while a larger organisation may need to emphasize the more strategic sections). As such, consider which skills you will need to develop to meet the roles needed at your organisation.

The skills below are organized into four large categories: Political and Thinking Skills; Building and Collaborative Skills; Business Skills; and Individual Traits.

### Political and Thinking Skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountability</td>
<td>If you say you’ll do something, you need to do it; if you don’t, you need to be held to account. IT leaders are accountable to the institution as a whole, not just within IT. Further, IT leaders need to assume accountability not only for the actions during their tenure but also for the IT organisation’s actions both before and after that time—what can be called “Technical Debt.”</td>
</tr>
<tr>
<td>Credibility</td>
<td>Credibility comes from belief in yourself as an individual and in your ability to deliver through others to meet commitments. Vigilance is necessary because it’s far easier to lose credibility than to earn it. The best approach is to over-deliver and under-promise.</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>Critical thinking is the ability to make sense of complex, varied, and incomplete situations; appreciate different viewpoints; structure data; and synthesise quickly. The IT leader uses critical thinking to rise above the immediate and look at the overall strategic picture and its impact, as well as to ensure that decisions and actions are measured, timely, and appropriate, within the given situation.</td>
</tr>
<tr>
<td>Cultural Awareness</td>
<td>This is an awareness and understanding of the culture(s) of the organisation, their roles, norms of behaviour, and values. It includes being empathetic to concerns and appreciative of the diverse nature of institutional communities and professional groupings; recognising the value they bring to the vibrant nature of learning and scholarly activity. Cultural awareness is also an ability to navigate across the organisation to achieve outcomes in the most inclusive manner possible.</td>
</tr>
<tr>
<td>Diplomacy</td>
<td>Diplomacy is the ability to understand the organisation’s political dimensions. It includes knowing how to communicate with different campus departments and leaders as well as the ability to build champions to help sell our case for us—to get the organisation to own our ideas.</td>
</tr>
<tr>
<td>Foresight</td>
<td>Foresight is the ability to make sense of trends and identify likely outcomes, drawing on a range of cultural, informational, and relational resources to identify potential views of the future.</td>
</tr>
<tr>
<td>Innovative Thinking</td>
<td>Innovative thinking challenges the current narrative and the status quo. It includes asking questions and identifying opportunities from a diverse range of sources to understand how IT might benefit the university and to build a compelling case for change. Innovative thinking helps IT leaders demonstrate doing things differently on various scales and encourages them to seek ideas from both inside and outside the organisation. When put into practice, this skill also creates the necessary conditions to enable others to innovate.</td>
</tr>
<tr>
<td>Long-term Perspective</td>
<td>When you look at a challenge, knowing what you can take advantage of to get the organisation where it needs to go requires long-term perspective. This skill is required to change from specializing in one area to being a generalist who brings together many different capabilities to develop a big-picture point of view. Traits involved include perceiving the environment, understanding communities and barriers, and being able to interact with the organisation to find a path to success.</td>
</tr>
<tr>
<td>Strategic Perspective</td>
<td>Cultivating a strategic perspective depends on having a broad understanding of the organisation’s culture(s), mission, and vision and being able to appreciate the interplay between context, process, and outcomes in the university. To fully develop this perspective, the IT leader must also look outside higher education at other sectors and industrial examples. Someone with this skill demonstrates excellent judgement between short-term (quick wins) and long-term (sustainable change) goals. Perhaps the most important factor of a strategic perspective is the complete understanding of the institution’s aims and aspirations and how these might be furthered by IT.</td>
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### Building and Collaborative Skills

<table>
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<tr>
<th>Skill</th>
<th>Description</th>
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<tbody>
<tr>
<td>Ability to Build Relationships</td>
<td>Today's leaders need broad networks for perspectives and analogues for comparison and innovation. Relationships need to be built up, down, and across the university. In addition, networks need to span peer organisations and also go outside higher education, into the domains of industry.</td>
</tr>
<tr>
<td>Ability to Identify and Nurture Talent</td>
<td>This skill is the ability to find and retain good people. It includes attracting high-quality IT professionals into the profession.</td>
</tr>
<tr>
<td>Ability to Influence</td>
<td>The ability to influence allows the IT leader to make a compelling case for IT and use relationships to build buy-in and understanding of issues and opportunities. An aspect of this includes the ability to develop credibility and goodwill by acting as an honest broker when potential arses. An essential feature of this skill is that the leader acts and is seen to act for the organisation, not the self.</td>
</tr>
<tr>
<td>Ability to Inspire</td>
<td>In order to inspire, the IT leader must not only have a clear vision of what is desired but also be passionate about it. These qualities are conveyed through language, gesture, and emotional intelligence. This skill not only helps during planning and in gaining buy-in but also challenges people to achieve excellence in their work.</td>
</tr>
<tr>
<td>Ability to Persuade</td>
<td>Persuasive IT leaders recognize different worldviews and beliefs and understand what is important to other people. In this way, persuasive leaders express how IT will relate to various communities, and they shepherd these communities toward good solutions.</td>
</tr>
<tr>
<td>Ability to Promote Collaboration</td>
<td>This skill enables IT leaders to build consensus within and across units.</td>
</tr>
<tr>
<td>Ability to Set and Manage Expectations</td>
<td>The skill set and manage expectations requires an understanding of the context, which enables IT leaders to avoid assuming that someone has the same understanding of an issue as they do. Expectations are managed by openly discussing goals, how they might be accomplished, and how success will be measured. To effectively apply this skill, the IT leader must communicate with key players on a frequent basis and work to make sure that expectations are realistic and achievable so that the organisation's needs and the team's abilities are in balance.</td>
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### Business Skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Description</th>
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<tbody>
<tr>
<td>Business Acumen</td>
<td>An IT leader with business acumen understands the enterprise, the challenges that the business of the university faces, and how IT provides value and alignment with business goals.</td>
</tr>
<tr>
<td>Financial Management</td>
<td>Financial management is the ability to understand total cost of ownership, investment appraisals, contracts, and SLAs, as well as the ability to negotiate agreements. It includes budget management and financial planning and forecasting.</td>
</tr>
<tr>
<td>Negotiation</td>
<td>Negotiation requires an ability to consider and a willingness to adopt different types of models to come up with a “win/win” solution. An IT leader with this skill works with suppliers to deliver the future change needed while also taking responsibility for the decision (rather than placing that responsibility with procurement staff).</td>
</tr>
<tr>
<td>Technology Awareness</td>
<td>Being technologically aware means staying abreast of current and emerging technologies, but this awareness is balanced by an understanding that you can’t be the expert in all areas of IT. IT leaders need to trust their staff to be the technology experts and know how to ask the right questions and use people skills in that process to learn what is necessary.</td>
</tr>
<tr>
<td>Written and Oral Communication</td>
<td>The IT leader acts as translator and talks about how to leverage technology to solve issues and problems where they reside, but a leader also helps colleagues think ahead and consider what the future might look like. To do this, the leader must be able to effectively present ideas in both written and oral formats, to a variety of audiences, including students and academic staff.</td>
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### Individual Traits

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<thead>
<tr>
<th>Trait</th>
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<tbody>
<tr>
<td>Lifelong Learner</td>
<td>A lifelong learner will possess an excitement for technology and its role in supporting the university’s mission. Because IT changes frequently, it is essential that IT leaders possess a strong interest in continually learning and growing their knowledge of IT in higher education.</td>
</tr>
<tr>
<td>Self-awareness</td>
<td>Through self-awareness, IT leaders identify their own weaknesses and strengths. They never stop listening to feedback and reflecting on what they’ve heard. This trait enables IT leaders to understand the impact they have on others, tell their story, and explain their career ambitions.</td>
</tr>
</tbody>
</table>
Working Group Biographies

Tom Andriola, Vice President and CIO, University of California, Office of the President
Tom joined the University of California as Vice President, Information Technology Services and Chief Information Officer in October 2013. He oversees the IT function, helps guide system-wide technology initiatives, manages technology needs for the Office of the President (UCOP), and provides leadership for the development of a long-term strategic vision for technology and digitalization at UC. In collaboration with campus and UCOP leadership, he plays a key role in exploring opportunities both for achieving system-wide efficiencies through shared services and for developing technology innovations to support the UC missions of teaching, research, and patient care. Tom brings over twenty years of executive experience driving change and innovation through the use of technology. As an enterprise technology executive, he has helped organisations define their IT vision and implement a broad range of solutions to achieve competitive advantage. As a champion of innovation, he has run organisations across four continents and led the creation of businesses generating more than $100M of revenue growth.

Mark Askren, Chief Information Officer, University of Nebraska–Lincoln
Mark’s role of CIO at the University of Nebraska–Lincoln includes responsibility for the campus-wide leadership of IT systems and services in support of instruction, research, and outreach. His prior experience includes serving as the Assistant Vice Chancellor for Administrative Computing Services at the University of California, Irvine, where he was also a member of the University of California’s Information Technology Leadership Council. His background also includes serving as Assistant Vice President for Application Development and Data Management at the University of Illinois and as Assistant Dean for Information Technology at the UC San Diego School of Medicine. Mark completed his master’s degree in Business Economics and Public Policy at Indiana University.

Eileen Brandreth, Director of University IT, Cardiff University
Eileen is responsible for a large, complex, and geographically dispersed IT service that delivers mission-critical IT services that enable the university community to achieve its goals. As well as having responsibility for Cardiff University’s centrally delivered IT services, Eileen also supports the university’s portfolios of business change, managing the delivery of extensive change and transformation programmes across the university. Prior to joining the university in 2008, Eileen was a CIO in a global insurance group, and her career had been spent in the financial services sector specifically delivering IT in banking, insurance, and wealth management organisations.

Nigel Cunningham, Deputy Director, Finance and Information Services, University of Ulster
Nigel leads the Information Services division at the University of Ulster, which supports 3,000 staff and 30,000 students, ensuring that the university has the appropriate information systems in place to support learning, teaching, research, and innovation, as well as effective and efficient administration. He is the lead on initiatives aimed at enabling an agile curriculum; improving the student experience; supporting teaching, learning, and assessment; supporting workflow and document management; and providing information assurance. Prior to his role at Ulster, Nigel held senior IT management roles as Head of Information and Computer Services at a large NHS Trust and in the NI Legal Services Commission as Head of Information Technology. He also worked as an Adjunct Lecturer in IS at Trinity College and held a lecturer post at Queen’s University, Belfast. Nigel holds a PhD in Business Studies (Information Systems and Strategy) from the Business School, Trinity College.
Dublin, an MSc from the Management School, University of Lancaster, and a BSc from Queen’s University, Belfast. He is a Chartered Information Technology Professional member of the British Computer Society.

**Kathryn F. Gates, Chief Information Officer, University of Mississippi**

Kathy has served as the Chief Information Officer for the University of Mississippi (UM) since February 2006. Prior professional experiences include working as a software developer for AT&T Bell Laboratories and a technical consultant for the Mississippi Center for Supercomputing Research, as well as serving as the Director of Academic Computing (1998–2003) and Assistant Vice Chancellor (2003–2006) at UM. Kathy received MS degrees in Mathematics and Computer and Information Science from The Ohio State University and a PhD in Engineering Science from the University of Mississippi. Kathy is involved in many initiatives related to technology and higher education. Current areas of interest include data mining, mobile computing, and web applications that interface with SAP. The underlying objective is always the same—to advance the university’s mission through the smart, innovative use of technology.

**Aline Hayes, Director of ICT, Sheffield City Council**

Aline has significant leadership experience in further and higher education and also has five years of board-level experience. She has led a number of diverse areas, such as a large converged library and IT service as well as multidisciplinary technical services supporting teaching, learning, and research in fine arts and sciences. Aline is committed to providing services that make a difference and is currently leading development of a new digital strategy for the Sheffield City Council. In this role, she works closely with all areas of the council’s service delivery as well as external partners and leads elements of work relating to IT and information access and sharing under the Integrated Care Commissioning programme. In addition, Aline chairs the Sheffield City Region Public Services CIO Forum, with members from organisations across the region representing over 12M citizens. Previously, she served as Director of Information Systems and Technology at Sheffield Hallam University, which is recognised as amongst sector leaders on the implementation of cloud-based services, mobile applications supporting students, award-winning work in server virtualisation and wireless deployment, data centre consolidation, desktop design, ITIL implementation, IT governance, and developments in e-learning and the student portal.

**Joanne M. Kossuth, Vice President for Operations and CIO, Franklin W. Olin College of Engineering**

As Vice President for Operations and CIO, Joanne has primary responsibility for the operational and technology areas of the college. In addition to her operations duties, she is responsible for fostering nonacademic relationships with neighbouring institutions and was recently appointed as the Associate Director of the Babson/Olin/Wesleyan Three-College Collaboration. As CIO, Joanne has had a unique opportunity to design fully converged, leading-edge technology facilities at Olin College from scratch, as well as to implement best IT practices from a clean slate. Her IT leadership led to her being named one of **Computerworld’s** Premier 100 CIOs in 2005. Her previous experience includes Systems Manager at Fisher College, Director of Information Technology at Wheelock College, and Director of Computer Support Services at the Boston University School of Management. Joanne’s professional background includes a BA from Holy Cross College and an MS from Lesley University with a concentration in developing and implementing information systems for small businesses. She also received technical certifications in areas such as network and security engineering from Novell, SANS, and Microsoft.
Thad Lurie, Chief Operating Officer, EDUCAUSE

Thad Lurie is Chief Operating Officer for EDUCAUSE and leads the association’s functions relating to membership, marketing, conferences and events, content, and information technology. He has served as Managing Director at Old Town IT, an association-focused consulting firm, where he provided organisational leadership and vision around operational management, strategic planning, hiring, process and product development, resource allocation, and change management. He has been very active in ASAE: The Center for Association Leadership and currently serves as the Vice Chair of the ASAE Technology Council. In addition, he holds both the CAE (Certified Association Executive) and CIP (Certified Information Professional) credentials and has been a frequent presenter and author for ASAE, Association Media & Publishing, and other events. Prior to coming to EDUCAUSE, Thad worked with the American Wind Energy Association, the American Health Lawyers Association, and the American Association of Physics Teachers.

Paul Saunders, Chief Technology Officer, University of Dundee

Paul was appointed Chief Technology Officer and Director of Information Technology at the University of Dundee in May 2013. He is responsible for all information technology across the whole of the university and has championed the “One IT” concept, where all IT is aligned and engaged to meet the disparate needs of the university’s internal and external customers. Prior to joining the university, Paul spent 14 years working for Textron, a Fortune 200 company based in Providence, Rhode Island. From 2010 to 2013 he was Vice President and Chief Information Officer for two of Textron’s businesses. Before this, Paul spent four years at Textron’s Shared Service IT (TIS) function in Fort Worth, Texas, and seven years with Greenlee Textron in both California and Texas as Director of Software Development. Paul’s eclectic background includes time working at Yahoo! as the Lead for their Platform Services group in Pasadena, California, and several years working in Hollywood in Post-Production Audio Engineering where he worked with major label recording artists and film studios. Paul received a BA from Middlesex University, London, in 1991 and an MSc from the University of Phoenix in 2004.

Chris Wanley, Chief Information Officer, Aston University

Chris is the Chief Information Officer at Aston University. He has a successful background in NHS, healthcare, education, academic, and local government sectors. In these roles, Chris has used a broad strategic approach to successful ICT leadership, engaging with business stakeholders and third parties, delivering cost-appropriate IT solutions and business process change via emerging technology solutions.

He has experience driving change management, business transformation, IT service transition, IT strategies, technology roadmaps, shared service environments, contact centres, CRM solutions, ICT development, IT upgrades, and systems migration, as well as delivering added business value and ROI through the use of technology. Chris is Business Continuity, Emergency Planning, and Information Governance director-level lead, including exercise development, testing, and Incident Gold Commander.
The Project Team

Karen A. Wetzel, Program Manager, EDUCAUSE
Karen has worked in higher education for nearly 20 years. She joined EDUCAUSE as Program Manager in 2011, managing the ACTI Working Groups and working with the EDUCAUSE Washington Office, where she supported the Network Council, the EDUCAUSE Campus Policy program, and the EDUCAUSE Policy office. In summer 2013, she transitioned to working under the EDUCAUSE Center for Analysis and Research (ECAR), where she is responsible for day-to-day oversight and leadership of the ECAR Working Groups. In this role, Karen collaborates with members and EDUCAUSE colleagues to ensure that current issues, emerging trends, and opportunities of special interest are identified, supported, and communicated. Immediately prior to EDUCAUSE, Karen served as Standards Program Manager for the National Information Standards Organization (NISO), where she oversaw all standards development work and reporting, developed and organized outreach and education programs; and created organisational procedures and policies. Karen holds a BA from the University of California, Los Angeles, an MA from Boston College, and an MLS from the Catholic University of America.

Louisa Dale, Director, Jisc group sector intelligence, Jisc
Louisa is currently shaping a new function to help Jisc develop a deep and sustained understanding of customer need. Her portfolio includes customer advocacy, customer research, and strategic relations. Working in a variety of communications and relationship management roles for Jisc since 2003, Louisa has worked closely with Jisc’s leadership team to develop highly successful collaborations. From its inception in 2004-2013, Louisa was Jisc partner representative in Knowledge Exchange, an influential initiative of European partners, which seeks to inform European Commission and other funder investments and policy directions, specifically in the use of digital and information technologies for higher education and research. Louisa’s early career experience was gained in Mercer Consulting, KPMG, and Royal Mail; prior to this she earned an MA and a BA in Philosophy from University of Leeds.

Richard French, International coordinator, Jisc
Richard joined Jisc as International Coordinator in April 2014. He is responsible for managing the developing network of international relationships across Jisc and acting as an organisational focus to bring together those activities taking place on an international level.

Prior to Jisc, Richard worked for the BBC on a variety of radio productions, where he planned and arranged logistics on live broadcasts, undertook research activities, and helped manage delivery of programmes. Previously, he managed and coordinated large-scale education projects and events for the British Council and taught English at a university in Beijing, China.
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