2009 Higher Education Technology Leadership Study: The Chief Information Officers Of the Future

Dr. Wayne A. Brown

Center for Higher Education Chief Information Officers Studies, Inc.
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Foreword

I would like to thank the 222 people who responded to this Higher Education Technology Leadership Study survey. I could not complete this research without you. Your willingness to participate gives us all more information about the higher-education technology leadership profession. I also thank my sponsors: Thanos Partners, Sungard Higher Education, and Excelsior College. The Study would be much more difficult to accomplish without their generous support.

This Study’s inspiration came from information gleaned from two separate Studies: both the 2008 and 2009 Higher Education Chief Information Officer Roles and Effectiveness Study. After analyzing the Studies’ results, I learned that a large percentage, 47 and 45 respectively, of the chief information officers (CIO) predicted they would retire within the next 10 years. This prediction by itself is cause enough for concern, but it prompted me to reflect on the individuals who would fill the shoes of those retiring leaders. I wondered about the plans of those who are in the next organizational layer down from the CIO and who are presumably those who would become the next generation of higher-education CIOs.

With nearly 50 percent of current CIOs possibly retiring within the next decade, I began to contemplate the potential CIOs and what those future technology leaders were thinking and doing in regard to becoming the technology executive. In the past, I did not question whether or not a technology manager or director wanted to become a CIO. I assumed all, if not most, sought this position. However, much to my chagrin, my personal experience had taught me that some of those in the organization’s next layer down from the higher-education CIO did not want the top information technology (IT) job. For some of those who were unwilling to pursue the job, they stated it was because they were busy with their families, and for others, it was because they enjoyed their current position and did not want to take on what looked to them like a thankless job that in some cases had little to do with technology. For me, knowing that not everyone wanted the job has opened the door for more questions.

What about those who do want the job? Are they being prepared to take the CIO reins? Do they have the skills and education necessary for the job? What are they doing to prepare themselves for the role? These questions and the potential answers are important to the CIO and higher-education community. The answers will help us prepare the next generation of CIOs. The answers may help those potential CIOs as they work their way toward the senior IT position in higher education. It is my goal that this leadership Study will shed some light on answers about the future CIO or at least enable us to begin asking the right questions in our search for the answers.

You may have noticed a new name associated with my research: Center for Higher Education Chief Information Officers Studies, Inc. (CHECS). In the past, I have personally funded the surveys, publication and distribution of the Study results. While I do love the subject, that financial burden combined with the enormous amount of work that goes into a national
survey, as well as wanting to give the research a “home,” has motivated me to create a nonprofit organization for CIO studies. To this end, I established CHECS (www.checs.org) in 2009. The purpose of CHECS is to contribute to the education and professional development of the chief information officer in higher education. I will further the CHECS mission by continuing research on higher-education CIOs as well as other higher-education technology leaders. In upcoming projects, I am expanding the CIO research in 2010; the research will be extended to include international higher-education institution CIOs. In addition to a nominal charge for the completed report, CHECS will allow me to fund this research through the generous sponsorships from organizations such as our 2009 sponsors, Excelsior College, SunGard Higher Education and Thanos Partners. All of the CHECS’ staff are unpaid volunteers, including myself.

I wish to thank the CHECS survey advisory board, a board of respected and esteemed colleagues who draw on their vast CIO experience to provide insight and advice about survey content. I thank them for their help on next year’s CIO Study as well as for their guidance on this Study, 2009 Higher Education Technology Leadership Study: The CIOs of the Future.

The CHECS Survey Advisory Board is comprised of the following higher-education technology leaders:

Debra Hust Allison, Interim Vice President for Information Technology, Miami University;
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**Gordon D. Wishon**, Chief Information Officer, Associate Vice President and Associate Provost; University of Notre Dame.

Please let me know if there are any questions or aspects of the higher-education technology leaders that are not covered here that you would like to see in the future.

Regards,

Wayne A. Brown, Ph.D.
wbrown@checs.org
**Executive Summary**

There is a large retirement wave approaching the higher-education CIO community during the next decade. However, sixty-nine percent of the technology leaders (TL)\(^1\) serving in the next organizational layer down from the CIO wanted to pursue the executive position within the next 10 years. The number of TLs available within this period drops slightly as 15 percent of that group has planned to retire within the same 10-year period, reducing the total percentage of those who would be available and who wanted to be CIOs to less than 60 percent.

Not all TLs wanted to become a CIO and their reasons for not wanting to pursue the senior IT position were as diverse as the group itself. Likewise, for those who plan on seeking the role, their reasoning was also varied. The rationale ranged from wanting to have an impact on the institution to an increase in pay.

The group was well educated with the majority holding the same degree majors (technology, business, or administration) as the bulk of the higher-education CIOs. However, the technology leaders in this Study did not have an advanced degree to the same percentage as today’s CIOs. Nevertheless, a good percentage of those who expressed an interest in pursuing a CIO position also indicated they were working on their next degree as a part of their preparation.

Women were well represented in this Study. Moreover, for certain age groups, they accounted for 45 percent of the overall population. They also appeared to have a better support structure and mentor connections than their male counterparts. However, when looking at those women who plan on becoming a CIO, the group fell to 28 percent.

As a whole, the TL group had less time in their position than the higher-education CIOs had in their positions. Furthermore, those who expressed an interest in becoming a CIO had less time in position than the rest of the group. Perhaps the TLs were changing jobs more often as they made their way toward a CIO position. The group had spent the majority of their careers in higher-education IT, but surprisingly, the next closest area was higher education outside of IT, not IT outside higher education, as the CIOs have reported.

The top five skills the TLs believed were needed to become a CIO were leadership, communication skills, interpersonal skills, higher-education knowledge, and planning. Technology knowledge and governance were not included in their top five skills.

This examination of the TLs has provided some interesting information about the group and the potential outlook for the higher-education CIO profession.

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\(^1\) For ease in differentiating between the lead technology executive (CIO) and those in the next organizational layer down from the CIO, the latter group will be referred to as Technology Leaders (TL).
Introduction

During the next 10 years, 45 percent of the higher-education CIOs have projected they will retire (Brown, 2009). The high percentage of projected retirees has remained relatively stable during the past two years, despite a significant downturn in the economy and devaluation of retirement plans (Brown, 2008b). With almost half of the current CIOs projected to exit the work force during the next decade, a burgeoning opportunity for stepping into the information technology (IT) leader role is developing.

As we approach the end of the careers for the first generation of CIOs, it is important to understand who could replace the pioneers in this relatively new profession. While the CIO career path is becoming clearer as the profession matures, there is still confusion among potential CIOs about the experiences that will qualify one to become an institution’s executive leader. Moreover, what education is necessary to obtain the position and what attributes they should hone in order to become competitive for the technology executive role can be equally as confusing. It would be beneficial if future CIOs understood what actions were necessary as they prepare for the next step in their career. The 2009 Higher Education Technology Leadership Study will provide answers to questions about the technology leaders who may become the CIOs of the future. The information includes where they are working, what skills they are honing, their education, background, and the skills they believe are important to a CIO. Furthermore, the Study will tell us about the actions these potential future CIOs are taking to prepare themselves for the CIO role and if their supervisors or other mentors are helping them to prepare.

The 2009 Higher Education Technology Leadership Study was launched in April 2009; 2,140 individuals at 787 institutions in the United States were surveyed. The institutions were selected based on two criteria: student population size and whether or not the IT organization had a visible management level beneath the CIO.

The institutions surveyed had more than 3,000 students. The IT organization structure of the 787 institutions was discernible from the institution’s Web site and it was clear from the structure, there were managerial titles below the CIO. Of those surveyed, 222 individuals from 184 different institutions participated, giving the Study a 10.37 percent return rate for the individuals and 23.37 percent institution return rate. The survey was concluded in June 2009.
Characteristics of the Entire Group

This section of the report will examine the demographics of the overall responding group and their institutions. Gaining an understanding of these potential CIOs’ characteristics may help shape their course for their future actions. In addition, the information will provide an understanding of where the group is at in their careers and the help they may need in order to be successful.

Age

As one might expect, the survey respondents (TL) were a younger-aged group than the higher-education CIO population. Thirty-two percent of TLs were 51 years or older compared to the CIOs in 2009, of which 55 percent filled the same age bracket (Brown, 2009). As shown in Chart 1, almost 70 percent—a sizable majority—of the TL group was between 41 and 55 years of age.

Chart 1. Respondents’ Age
Gender

Examining gender in this Study revealed some unexpected results. In the 2009 CIO Study, 24 percent of the respondents were women. However, in this survey of TLs, 32.88 percent of the respondents were women. Through a comparison of the two Studies, apparently, there were more women working in the higher-education IT department management team than their presence at the CIO level would indicate. According to the Bureau for Labor Statistics, 27.2 percent of all computer and information systems managers in the United States are women (“Household Data Annual Averages: Employed Persons by Detailed Occupation, Sex, Race, and Hispanic or Latino Ethnicity,” 2008). Chart 2 depicts the gender breakdown for the entire group of respondents to this survey.

Chart 2. Gender

In addition to the overall differences in the number of men and women in the profession, there were differences based on the age range and gender. Chart 3 reflects the number of respondents by gender within the different age ranges. The percentage of women peaked at 45 percent in the 41 to 45 age range and then began to drop off. This percentage is significantly higher than the percentage of women who were CIOs in 2009. For the CIOs in 2009, the percentage of women compared to the total number of CIOs never rose above 28 percent for any of the age ranges.
Institution Types

The respondents for this Study came from all Carnegie-institution types, including research universities, master’s, baccalaureate, associate’s, and special focus. Furthermore, the institution classifications were diverse and included state institutions, liberal arts colleges, Ivy League institutions, community and technical colleges, and service academies. The institution types and percentage of respondents from each type are depicted in Chart 4.

Chart 4. Institution Types
Institution Size

The institutions surveyed had more than a 3,000-student population. The respondents worked at institutions which ranged from 3,000 to more than 35,000 students. The percentage for different institution sizes are shown in Chart 5.

Chart 5. Institution Size

![Chart 5](image)

Work Experience

Work experience in different areas provides a glimpse into where the next CIO generation had spent their careers up to this point. Table 1 shows the average number of years the respondents had worked in four general category areas through the course of their careers. When compared to the 2009 CIO Study, the two groups work experiences shared some similarities as well as some interesting differences.

The TL respondents had spent the vast majority of their careers working inside higher education IT. However, the next longest length of time was outside of the technology department but within higher education. This revelation contrasts sharply with the 2009 CIOs, who had named “IT Outside Higher Education” as their second longest work experience area. In fact, the category “IT Outside Higher Education” was the work experience area with the average least amount of time for the TLs. Clearly, some of the TLs have worked in areas within higher education, but outside of IT. Perhaps, the higher-education knowledge has been important in the
hiring process, or the TLs already had an involvement with the technology of the institution prior to joining the IT department.

We can surmise the next generation of CIOs will have higher-education IT experience, but they will have spent significantly more time in higher education outside IT than the previous CIO generation had spent.

**Table 1. Work Area Experience**

<table>
<thead>
<tr>
<th>Area</th>
<th>TLs’ Years</th>
<th>2009 CIOs’ Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education IT</td>
<td>13.06</td>
<td>14.75</td>
</tr>
<tr>
<td>Higher Education Outside IT</td>
<td>5.89</td>
<td>3.87</td>
</tr>
<tr>
<td>Outside Higher Education and IT</td>
<td>3.67</td>
<td>2.77</td>
</tr>
<tr>
<td>IT Outside Higher Education</td>
<td>2.94</td>
<td>5.37</td>
</tr>
</tbody>
</table>

**Tenure**

The respondents to the survey had spent an average of 4.9 years in their current positions, while the 2009 CIOs spent 6.8 years in their current positions. Perhaps the next generation was changing jobs more frequently as they made their way along a career path that may lead them to a CIO position.

The time in position for those who aspired to the CIO role was lower than those who did not want to pursue the CIO role. Those who wanted to become a CIO had been in their position for 4.6 years versus those who did not want to become a CIO who had been in their position for 6 years. The difference will be explored in the next section of this report.

**Retirement Plans**

This group was younger than the higher-education CIO. As might be expected, the percentage of respondents to this survey who planned on retiring in the next 10 years was significantly lower at 22 percent than the 2009 CIO group, where more than double, 45 percent, were planning to retire in the same time frame. When examining the TL group that would retire in the next 15 years, the percentage rises to 49 percent (Chart 6), while the 2009 CIO group indicated that 70 percent would retire in the next 15 years.
Titles

There are a number of different job titles used to designate the CIO position. During the past several years, “Chief Information Officer” has become the most commonly cited title for the respondents of the CHECS’ CIO Study. This has not always been the case, in 2004, it was the second most common title, following director, with 32 percent of respondents reporting CIO as their title. However in 2009, the majority of the CIO respondents, 42 percent, held the CIO title.

In the Higher Education Technology Leadership Study, there were an equally diverse variety of titles used for these leaders. The titles range from Vice President to Manager. To add to a confusing mix, another title used was Chief Technology Officer (CTO). CTO is a title that was also held by 5 percent of the senior IT executives, according to the 2009 CHECS’ CIO report. The number one title for TLs was Academic Computing Director followed by some variation of Client, User, or Desktop Computing Director or Manager. The breakdown of the respondents by title is depicted in Chart 7.
Supervision

The TLs in this Study were supervising people directly and indirectly and, in some cases, they were overseeing large numbers of people. This leadership and management experience will prepare the group for the CIO position. Today’s CIOs are expected to manage a technology department that is potentially staffed by a large number of people. While not every member of the IT department will report directly to the CIO, there is an expectation that the executive leader can handle the staffing issues one faces with a large department. For TLs, the average number of people supervised directly and indirectly was 37.
Maintaining Knowledge

The technology and the higher-education profession are both changing rapidly. In addition, people working on the IT department leadership team are very busy. As with most departments in a higher-education institution, they may be understaffed and have an endless list of institution and departmental projects. Maintaining their knowledge of both the technology and higher-education industry can be a challenge. Those who responded to the survey were doing an admirable job of trying to maintain their knowledge through the methods depicted in Chart 8.

The TL group was asked to select any number of options to indicate how they maintained their knowledge of the complex IT field. Options included reading, peer discussion, conferences, and working on projects, to name a few. The number one answer for TLs was reading at 94 percent, followed very closely by peer discussions at 90 percent. Working on projects and attending conferences were equally represented at 85 percent, while training, arguably one of the most effective ways to gain or maintain knowledge, was reported by only 43 percent of the responses. It appears the group is taking a knowledge maintenance approach that may not be as effective as it could be.

Chart 8. Maintaining Knowledge

![Chart 8. Maintaining Knowledge](image)

Professional development is an area that can be overlooked in the course of everyday life. If a person is content with the current position he or she is holding, developing on a professional level may not be on a priority list. However, for an aspiring CIO, taking charge of molding and guiding his or her career can be a decisive factor in career ascension. To gain a snapshot of how the TLs were shaping their careers, the entire group was asked about their professional development efforts for the past three years. TLs were engaged in a great deal of professional development with 80 percent attending higher-education technology conferences and 64 percent...
attending leadership or management training during the same three-year period. The results are depicted in Chart 9.

Chart 9. Professional Development

![Professional Development Chart]

**Professional Affiliations**

Professional affiliations are very important to the growth of the individual. The groups are also a way to stay connected to the industry and involve the institution in the activities of the profession through conference attendance, presentations, and activism.

The TL group was affiliated with a number of professional organizations (Chart 10). The respondents were asked to select all of their affiliations and list any other organizations not included on the survey. A majority of the TLs named EDUCAUSE as a professional affiliation. The “Other” category, at 16 percent, included a wide variety of local, institution-type, and profession-specific organizations, such as the state bar and a webmaster organization. “None” was the third highest at 10 percent and the Association for Computing Machinery (ACM) followed at 8 percent. Other groups named include enterprise resource planning (ERP) specific national and regional groups, the Project Management Institute (PMI), Help Desk Institute, ACUTA, and Gartner.
As with most other professions, having a college degree is an important requisite for TLs and 93 percent held at least a bachelor’s or advanced degree. Moreover, those respondents with an advanced degree accounted for 61 percent of the total (Chart 11). When analyzing the responses of those who wanted to pursue a CIO position, the advanced degree percentage jogged up slightly to 64 percent (Chart 12).

In contrast, a majority of current higher-education CIOs hold an advanced degree – the percentage is consistently in the upper 70s. If today’s TLs have their sights set for the executive technology position, there may be some academic work ahead for some of those in the group if they are going to be competitive for the CIO role. Perhaps in anticipation of that requirement, 24 percent of those who indicated they wanted to become a CIO were working toward their next degree.
Chart 11. Degree Level For Entire Group

- Master's degree: 49%
- Bachelor's degree: 32%
- Doctorate: 12%
- Associate's degree: 6%
- High school: 1%

Chart 12. Degree Level For Those Who Want to be a CIO

- Master's degree: 54%
- Bachelor's degree: 29%
- Doctorate: 10%
- Associate's degree: 6%
- High school: 1%
**Degree Major**

Today’s higher-education CIOs have a broad range of degree majors for their formal academic education. In the 2009 CHECS CIO Study, more than a quarter of the respondents – 26 percent – had degree majors spanning the academic catalogue, from anthropology to veterinary medicine, and everything in between. This category was labeled “Other.” In spite of the variance, another 61 percent of the CIOs had a degree that could be considered related to the CIO career field, such as technology, business, or administration.

The *Higher Education Technology Leader Study* revealed similar statistics with a possible emerging degree major trend: 59 percent of the respondents held related-degree majors (technology, business or administration). Twenty-one percent of the respondents held a degree categorized as “Other.” Chart 13 depicts what majors the technology leadership respondent possessed.

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**Chart 13. Degree Major**

- Technology - 30.63%
- Business - 23.87%
- Other - 21.27%
- Education - 10.81%
- Administration - 4.95%
- Engineering - 4.95%
- Math - 2.25%
- Psychology - 1.35%
CIO Degree Major Opinions

The Study participants were asked what degree major they thought was important for a CIO to have earned. Technology, business, and administration accounted for 76 percent of the responses (Chart 14). As with the actual degrees held by the respondents, the “Other” category account for almost one-fifth of the responses. However, when the TLs were asked to specify what major they meant by “Other” there was an interesting difference. The majority of those who answered in the “Other” category indicated a particular degree major was not important in advancing to the CIO role. Indeed, they indicated the combination of experience and degree was more significant than a particular major.

Chart 14. Degree Major Needed For CIO

Skills Needed by the CIO

In all of the previous CHECS CIO Studies, the attributes needed for a CIO to be considered effective by the institution management team have been very consistent (Brown, 2006a, 2006b, 2008a, 2008b, 2009). According to those Studies, the CIO needed to have:

- Technical skills
- Business skills
- Communication skills
- Political savvy
TLs were given an opportunity to list the skills they believed were the most important for a CIO to have to be perceived as effective. The TLs were provided with a list of 19 skills, and they were asked to select the five most important skills for a CIO to possess. (In 2010, the CIOs in the annual CHECS CIO survey will be asked this same question in an effort to provide another perspective for this topic.)

Leadership was the number one skill selected by 88 percent of the respondents. The remaining four of the five top skills selected by the respondents were communication skills, interpersonal skills, higher-education knowledge, and planning.

Technical knowledge was ranked as sixth at 34 percent, and governance and budgeting, which may be critical skills for an executive to possess, were both listed in the eighth position, after technical knowledge. The ranking for all of the skills are listed in Chart 15.

**Chart 15. CIO Skills**
In the CIO’s Absence

A technology leader may or may not be designated to take the leadership position in a CIO’s absence, such as while he or she is on vacation or otherwise unavailable. Having a deputy or director fill in temporarily may be a training ground for the aspiring CIO, as well as laying ground work for succession plans. However, it is not always the case. Some CIOs may find they are always at least a telephone call away or simply do not have a formal succession plan.

The TLs were asked whether or not they were the person who was in charge when the CIO was out of the office. As depicted in Chart 16, just slightly more than a quarter of them, 27 percent, indicated they were in that position. Another 36 percent indicated the role was rotated between different positions in the IT department and another 36 percent did not hold that role.

Chart 16. In the CIO’s Absence: Are You in Charge When the CIO is Unavailable (All Respondents)?
Interestingly, the respondents who indicated they did not want to be a CIO accounted for more than 16 percent of the total TLs who were in charge in the CIO’s absence (Chart 17). Despite not wanting to pursue the CIO role, those individuals were still serving as the senior IT executive when the CIO was unavailable.

Chart 17. In the CIO’s Absence: Are You in Charge When the CIO is Unavailable (Respondents Who Do Not Want to Become The CIO)?

![Pie chart showing the distribution of responses]

**Salary Range**

Salaries can be as wide ranging as the size of an institution. While there are cases where the correlation between institution size and salaries may not be valid, knowing salary ranges helps both the individual and institutions remain competitive. Those individuals who were surveyed provided general information about their salary range. The group compensation covers a broad span from less than $50,000 to more than $140,000 (Chart 18).
Budget creation and management is a prerequisite to becoming a CIO at an institution of any size. The respondents to this Study had experience managing significant budgets. However, the TLs did not consider budgeting skills as one of the top five skills for a CIO. The budgets of those who did aspire to become a CIO will be examined in the next section of this report. The budget ranges are depicted in Chart 19.
Summary

The demographics of this TL group were clearly different than CHECS’ higher-education CIO Study participants. The group was younger and there were more women in the group as a whole as well as in certain age ranges. The group had spent most of their careers working in higher-education IT departments, but they had also spent a significant portion of their careers working in higher education outside the IT department. This trend is not seen with current higher-education CIOs. Perhaps, the career path is being changed by this future CIO generation.

The respondents spent less time in their current positions than current CIOs have spent in their position. One possible reason is the TLs may be changing jobs more frequently as they make their way toward the senior IT executive position.

The group, as individuals, held a wide variety of job titles. Some of those same titles, such as CTO, are also used by the senior IT executive at different institutions. The group was actively engaged in professional development and professional organizations. While an advanced degree is not as prevalent among the respondents as it is with CIOs, a segment of the group that expressed an interest in becoming a CIO was working towards their next degree. The degree
majors for those in the TL group reflected some similarities with those in the prior CHECS CIO Studies.

Many of tomorrow’s CIOs will undoubtedly emerge from this group. As today’s CIOs retire (nearly half within the next decade), technology leaders will step into the executive role. The next section will examine characteristics of the TL group who indicated they want to become a CIO at some point in the future. The section will also highlight the steps TLs are taking to prepare for the role, as well as what was being done to help them prepare for this major career step.
Leaders of Tomorrow

This section of the report will take a closer look at those TLs who expressed a desire to become a CIO. To gather an inclusive perspective, this potential CIO group will be contrasted with the group who indicated they did not want to become a CIO. The TLs’ reasons for both paths – to become or not become a CIO will also be examined.

Career Plans

The number one question inspiring this research was: Do the people in the next organizational layer down from the CIO want to become a CIO at some point in the future? The question was driven by the anticipated retirement of a significant portion – nearly half – of the current CIOs. Perhaps not surprisingly, not everyone who was in the second layer of the IT organizational chart wanted to become a CIO. While the answer to the question of becoming a CIO was not a unanimous “Yes,” there was a large portion of this group, 69 percent, who aspired to become a CIO in the future (Chart 20).

Chart 20. CIO Career Plan
Timing of CIO Pursuit Effort

Those who were interested in becoming a CIO had very different timelines for a concerted effort toward their goals. The number one answer when asked when they would begin working toward the senior IT position career goal was five years. This answer was followed very closely by one, two, and three years. These four answers combined comprised 78 percent of the responses. The remaining answers comprised 22 percent of the responses. The results are depicted in Chart 21.

Chart 21. Number of Years Until Concerted Effort to Become a CIO

Planning for Succession

Some CIOs were planning for their eventual departure from the career field or their current positions. This planning involved active mentoring for the technology leaders in their department and/or the creation of a formal role which was designated as the position which assumed department leadership in the CIO’s absence.

The respondents in this survey indicated, in 26.45 percent of the cases, that they held a position that was specifically created to take charge when the CIO was unavailable. In all cases, the person filling this position also expressed an interest in becoming a CIO (Chart 22).
Working in a position such as this may be one of the best approaches to prepare the TLs for the CIO role (Handfield-Jones, 2001). Unfortunately, 73.55 percent of TLs were not in such a role.

In preparing the next CIO generation, it would seem to make sense to place TLs into these kinds of roles and provide the mentorship and training that would produce leaders who are ready for the next step in their careers.

**Chart 22. In a Position Created to Fill in For the CIO**

![Chart showing percentage of TLs in CIO-related roles]

**Age**

As depicted in Chart 23, those who wanted to become a CIO were younger than the entire group of TLs. Those who wanted to become a CIO and who were older than 51 years accounted for 26.62 percent of the respondents compared to 32 percent for all of the TL respondents in the
same age range. Overall, those who seek to become a CIO were younger and will have more time to prepare for and move into that role.

Chart 23. Age of Those Who Want to be a CIO

Gender

While the percentage of women respondents to this survey, 32.88, was higher than any of the previous CHECS CIO Studies, the percentage of those women who wanted to become a CIO dropped by 5 percent to 27.92 percent (Chart 24).

There may be a variety of reasons for this decline. One possible rationale may be found in some of the female respondents’ reasons for not wanting to be a CIO. A multitude of reasons were given for not wanting to pursue the CIO position, ranging from the CIO position being too political to not seeing the reward in the position. The reasons the respondents in general did not want to pursue the CIO path are explored later in the report.
Retirement Plans

Higher-education CIOs responded in 2009 that 45 percent of them were planning to retire within the next 10 years. As mentioned earlier in this report, this retirement exodus may be a cause for concern and it prompted this Study. A natural follow-on question is what are the retirement plans for this TL group and is there a similar retirement wave approaching for this group of IT leaders? With nearly half of today’s CIOs planning to retire within the next 10 years, it is pragmatic to look at the general pool of potential leaders who might fill the vacancies.

The number of respondents to the Higher Education Technology Leadership Study who wanted to become a CIO and who predicted they will retire in the next 10 years was 15.5 percent (Chart 25). When factored with the percentage of TLs who reported they were not interested in the CIO position, nearly 31 percent, the CIO candidate pool remaining who presumably would be pursuing the CIO position during the next 10 years is significantly diminished.

Combining those TLs with retirement plans with those who indicated they did not want to become a CIO (almost 31 percent), the percent who predict they will not be available to become a CIO in the next 10 years expands to 41.44 percent of the total TL respondents (Table 2).

When considering this information with CIO retirement plans (45 percent plan to retire in the next decade) and recognizing that more than 40 percent of TLs may be retired or do not plan to pursue the CIO position, there may be cause for concern about the future of the profession. On
the other hand, there were more people in this second IT leadership tier than there are at the CIO level. Furthermore, many of the institutions included in this survey had at least two people who were in the next organizational layer down from the CIO and possessed a management title.

Table 2. Retirement Plan Comparison

<table>
<thead>
<tr>
<th>WHEN DO YOU PLAN TO RETIRE?</th>
<th>1-5 yrs</th>
<th>6-10 yrs</th>
<th>11-15 yrs</th>
<th>16-20 yrs</th>
<th>21 yrs or more</th>
<th>I don't know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you want to become a chief information officer? Yes</td>
<td>7</td>
<td>17</td>
<td>35</td>
<td>43</td>
<td>47</td>
<td>5</td>
<td>154   or 69.37%</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>14</td>
<td>24</td>
<td>8</td>
<td>8</td>
<td>2</td>
<td>68    or 30.63%</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>31</td>
<td>59</td>
<td>51</td>
<td>55</td>
<td>7</td>
<td>222</td>
</tr>
</tbody>
</table>

Chart 25. Retirement Plans of Those Interested in Becoming a CIO

- 1-5 years: 4.55%
- 6-10 years: 11.04%
- 11-15 years: 22.73%
- 16-20 years: 27.92%
- 21 years or more: 30.52%
- I don't know: 3.25%
Reasons for CIO Position Pursuit

There are a variety of reasons why an IT leader may not want the executive role and the same holds true for those who do want the CIO job. The aspiring CIOs gave an assortment of motives for wanting to pursue the senior position. Some of the explanations were very altruistic, such as the number one reason cited: the potential for having an impact on the institution. Answers in the “Other” category included personal ambition, wanting to be successful, and having been a CIO in the past. Six percent of the respondents indicated they wanted the job for an increase in salary. The reasons are summarized in Table 3.

Table 3. Reasons for CIO Position Pursuit

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential for Impact</td>
<td>36</td>
</tr>
<tr>
<td>Logical Step in Career</td>
<td>21</td>
</tr>
<tr>
<td>Other</td>
<td>17</td>
</tr>
<tr>
<td>Challenge</td>
<td>14</td>
</tr>
<tr>
<td>Pay</td>
<td>6</td>
</tr>
<tr>
<td>Passion for Job</td>
<td>6</td>
</tr>
</tbody>
</table>

Reasons For Not Pursuing The CIO Position

For those respondents who did not want to be a CIO, their reasoning was equally as varied with the top two reasons being a desire to remain closer to the work they were doing and an aversion to perceived “politics.” Politics was not defined by the respondents in their comments. Other reasons included the respondents being happy in their current position and the perception that the CIO role was a thankless job. The reasons are depicted in Table 4.
Table 4. Reasons For Not Wanting to Pursue The CIO Position

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remain closer to work</td>
<td>22</td>
</tr>
<tr>
<td>Aversion to “politics”</td>
<td>22</td>
</tr>
<tr>
<td>Happy with current job</td>
<td>12</td>
</tr>
<tr>
<td>Retirement</td>
<td>12</td>
</tr>
<tr>
<td>Not prepared</td>
<td>7</td>
</tr>
<tr>
<td>Thankless job</td>
<td>7</td>
</tr>
<tr>
<td>Too much pressure</td>
<td>4</td>
</tr>
<tr>
<td>Family obligations</td>
<td>4</td>
</tr>
<tr>
<td>Lack of incentive</td>
<td>4</td>
</tr>
<tr>
<td>Lack of passion</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
</tbody>
</table>

CIO Preparation Activities

Some of the IT leaders in this survey were gaining valuable practical experience through on-the-job training in the CIO role as the person in charge during the CIO’s absence. Sixty-three percent of the respondents indicated they were either in charge or were part of a rotation to assume the lead position in the CIO’s absence. Furthermore, 26 percent of the respondents indicated that their role had been created to serve as the position in charge when the CIO was unavailable. This method of on-the-job CIO preparation could be the best approach to preparing these IT leaders for a position that may be in their future.

However, on-the-job training isn’t the only way to prepare for career advancement. Those respondents who aspired to the CIO position were asked to select any number of activities from a list in regard to what they were doing to prepare for the executive position. The results are in Chart 26. The number one response, at 78 percent, was on-the-job training. The next most frequently given answer, at 59 percent, was being mentored.

As mentioned earlier in this report, a majority of the Study respondents did not have an advanced degree comparable to the percentage of current CIOs who held an advanced degree. However, 24 percent of those who wanted to become a CIO were actively pursuing their next degree.
Respondents listed activities not on the list in the “Other” category. Some of activities included leadership, management, and project management training. Eight percent indicated they were not preparing for the position. Perhaps, they felt they were already prepared or the timeline for pursuing the position is further in the future.

**Chart 26. CIO Preparation Activities**

**Mentoring**

Mentorship is arguably one of the most important aspects in leadership development (Maxwell, 1998). It is also a very difficult relationship to set up and maintain (Handfield-Jones, 2001). Mentoring involves a great deal of time and effort from the mentor and the mentee, but it may be the most effective method to prepare someone for the next step in their career. The respondents who indicated they were going to pursue a CIO position were asked who, if anyone, was helping them to prepare for the position. They were asked to select from a list all that applied.

As depicted in Chart 27, the number one answer at 38 percent was no one was helping them to prepare to become a CIO. Mentors can be a critical part of a person’s advancement (de
Janasz, Sullivan, & Whiting, 2003). The second highest answer, at 36 percent, was the respondent’s CIO. That percentage combined with affirmative responses for “CIO From Another Institution” brought the CIO-mentoring answers to 51 percent. This multiple mentor approach to career development is recognized as successful (de Janasz et al., 2003). The third highest response was “Peers” at 20 percent. This third approach is recognized as an effective way to develop leaders (Dixon, 2006).

Chart 27. Preparation Assistance Sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No one</td>
<td>38%</td>
</tr>
<tr>
<td>My CIO</td>
<td>36%</td>
</tr>
<tr>
<td>My peers</td>
<td>20%</td>
</tr>
<tr>
<td>CIO from another institution</td>
<td>15%</td>
</tr>
<tr>
<td>Another executive from my institution</td>
<td>11%</td>
</tr>
<tr>
<td>Professional organization</td>
<td>10%</td>
</tr>
<tr>
<td>Other mentor</td>
<td>9%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

This data was also examined by gender, which reflected noteworthy results. For men in the Study, 43 percent reported not having anyone helping them, while 41 percent reported having either their own CIO or a CIO from another institution helping them (Chart 28).
When looking at the preparation assistance source for the women who wanted to become a CIO, an interesting phenomenon occurs. Fifty-one percent of female respondents who intend to pursue a CIO role stated that their CIO was mentoring them (Chart 29). Furthermore, when combined with the answer “CIO From Another Institution,” the mentoring percentage rose to 79 percent. This percentage for women is a sharp contrast to men’s 41 percent for the same two answers.

It is not known why women are being mentored at a far greater percentage than men. Women may have a better support structure than the men for assistance in helping them get to the senior IT position. Perhaps women more readily seek mentorship. If women do not leave the work force, a CIO gender trend may appear in the next decade reflecting the mentoring efforts.

Only 23 percent of the female respondents indicated that no one was helping them prepare for the CIO position. This is the same percentage reported for peer assistance. Chart 30 provides a side-by-side gender comparison.
Chart 29. Preparation Assistance Sources For Women

<table>
<thead>
<tr>
<th>Source</th>
<th>Women</th>
<th>CIO from another institution</th>
<th>No one</th>
<th>My peers</th>
<th>Another executive in my institution</th>
<th>Professional organization</th>
<th>Other mentor</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>My CIO</td>
<td>51%</td>
<td>28%</td>
<td>23%</td>
<td>23%</td>
<td>19%</td>
<td>12%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>CIO from another institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No one</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My peers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Another executive in my institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other mentor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chart 30. Comparison by Gender

<table>
<thead>
<tr>
<th>Source</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>My CIO</td>
<td>51%</td>
<td>31%</td>
</tr>
<tr>
<td>CIO from another institution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No one</td>
<td>23%</td>
<td>43%</td>
</tr>
<tr>
<td>My peers</td>
<td>23%</td>
<td>19%</td>
</tr>
<tr>
<td>Another executive in my institution</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Professional organization</td>
<td></td>
<td>28%</td>
</tr>
<tr>
<td>Other mentor</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Professional organization</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Legend:
- Women
- Men
**Readiness for the CIO Role**

The respondents who plan to become CIOs were asked three questions to assess their own readiness for an institution’s senior IT position (Table 5).

The first question queried the respondents on how prepared they thought they were to become a CIO now. Answers were selected on a 0 to 4 scale, with 0 representing least prepared and 4 being prepared. The average self-assessment for the respondents was a 2.6, indicating the respondents were “almost prepared” for the CIO role.

The second question asked the IT leaders to rate their understanding of the CIO role on a scale of 0 to 4, with 0 representing no understanding at all and 4 reflecting complete understanding. The average rating for the respondents was a 3.2, indicating an almost complete understanding of the CIO role.

The third question attempted to determine how much assistance the respondents believed they were going to need when they became a CIO in order to be successful. Again, the scale was from 0 to 4, where 0 was needed no assistance and 4 was needed a great deal of assistance. The average rating for the respondents was a 1.7 indicating the respondents would need minor assistance as a CIO.

A self-assessment of understanding and readiness for the very complex and evolving CIO role may not be the most accurate measure. However, the questions and answers do attempt to measure the respondents’ perspective; they appeared to believe they understand the CIO role. However, they were not overly confident about their ability to assume the CIO role and may need assistance in order to be successful.

**Table 5. CIO Role Self-Assessment**

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepared to Become a CIO Now</td>
<td>2.6</td>
</tr>
<tr>
<td>Understanding of CIO Role</td>
<td>3.2</td>
</tr>
<tr>
<td>Assistance Needed in CIO Role</td>
<td>1.7</td>
</tr>
</tbody>
</table>

**Tenure**

There was a statistically significant difference in current job tenure for those who wanted to be a CIO compared to those who did not. Those aspiring to the CIO role had been in their position 18 months less than the group that did not want to become a CIO.
Perhaps those in the latter group are content with their positions or those in the former group are changing positions more frequently as they prepare themselves to move into a CIO role (Table 6).

**Table 6. Time in Current Position Comparison**

<table>
<thead>
<tr>
<th>ASPIRE TO BECOME A CIO</th>
<th>TIME IN CURRENT POSITION (MONTHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>54.3</td>
</tr>
<tr>
<td>No</td>
<td>72.2</td>
</tr>
</tbody>
</table>

**Budget**

Budget preparation and management is a major component of any executive role. This responsibility is even more pronounced in the IT department where considerable amounts of money are needed for salary, operational expenses, and capital improvements. The technology budget may be one of the single largest budgets on a campus.

As depicted in Chart 31, the respondents are managing considerable budgets. There were some notable differences in the budget responsibilities for those who wanted to become a CIO and those who did not. Those who did want to become a CIO managed a budget of more than $1 million dollars in 64.94 percent of the cases versus 38.24 percent for those who did not want to become a CIO.

**Chart 31. Budgets Comparison For Aspiring CIOs And Those Who Are Not**
Summary

The respondents were planning on pursuing the CIO role for a variety of reasons. More than one-quarter of the respondents who wanted to become a CIO were in a job that was specifically created to serve as the senior IT executive when the CIO was out of the office. Almost 70 percent of all of the respondents wanted to become a CIO. However, 15 percent of that group also planned on retiring within the next 10 years. Combining that percentage with the group who did not want to become a CIO and the segment of TLs who may not be available to serve as a CIO in the next 10 years rises to more than 40 percent. However, there are more TLs than there are CIOs, potentially mitigating the shortage. The planned timing for pursuit of the CIO role for most of the TL group was due to occur in the next five years.

The group that indicated they wanted to become a CIO is preparing for the role through on-the-job training and other activities. Mentorship may be lacking for a significant percentage of the group, particularly men, as the number one answer to who was helping them prepare for becoming the CIO was “no one.” There appeared to be significant gender differences for this question as women indicated they had support from their CIO as well as from CIOs at other institutions at a rate that was almost twice as much as their male counterparts.
Conclusion

The very large retirement projection of the higher-education CIO, 45 percent in the next 10 years, was the number one reason for conducting this research. The results paint an uncertain picture for the next generation of CIOs. More than 40 percent of the TLs either did not want the CIO position or they planned on retiring in the next decade. However, there are more TLs than CIOs, providing a larger pool of potential candidates for the executive position. There is a clear lack of mentoring or assistance for a large portion of those who wanted to be a CIO. There may be hope through the preparation approaches for the women in the TL ranks. They apparently had a good support structure, but the percentage of the TLs who were women and who wanted to be a CIO was only 28 percent.

The group was well educated with the majority holding the same degree majors, technology, business, or administration, as the bulk of the higher-education CIOs. However, the technology leaders in this Study did not have an advanced degree at the same percentage as today’s CIOs, but some of those who did want to be a CIO were preparing by working towards their next degree.

As a whole, the group had less time in their position than the higher-education CIOs. Furthermore, those who expressed an interest in becoming a CIO had less time in position than the rest of the group. Perhaps they are changing jobs as they make their way towards a CIO position. The group has spent the majority of their careers in higher education IT, but surprisingly, the next closest area was higher education outside of IT, not IT outside higher education, as the CIOs have reported.

The top five skills the TLs believe are needed to become a CIO included leadership, communication skills, interpersonal skills, higher education knowledge, and planning. The TLs were further examined by whether or not they wanted to pursue the CIO role. The reasons to seek or not seek the CIO position were varied. Those who wanted the job indicated that the ability to have an impact was a major reason for the pursuit of the position. Those who did not want the job indicated they wanted to remain closer to their current responsibilities and an aversion to “politics.”

The Study provides the profession with interesting information about the potential future higher-education CIO. It also provides existing CIOs and organizations with a call to action to provide mentorship and preparation for the group that may replace the first generation of CIOs, if these technology leaders are ready. Just as technology is constantly evolving, so are the roles for technology leaders. As one generation of leaders steps down, so another will take the reins of the higher education technology department of tomorrow.
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