

The Role of the CIO
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Introduction

CIO is an acronym for Chief Information Officer, which is a job title for the head of the information technology group within an organization. There are many varied job descriptions for a CIO but first we will present an expanded definition as presented in Wikipedia.

- CIO or Chief Information Officer is a job title for the head of information technology in an organization. They often report to the chief executive officer or chief financial officer. The prominence of this position has risen greatly as information technology has become a more important part of business. Depending on the organization, the CIO may be a member of the “executive board”.

The role of the CIO has been in a state of flux and we have found no definitive qualifications listed for a CIO. This may be due to the fact that in business terms the role is relatively new. This new and rapidly changing executive position did not emerge from thin air but has developed from the days when the person in charge of information technology was simply the person who knew the most about computers. Many CIOs have degrees in computer science, software engineering, or information systems. However, as we will see, it is becoming more important for CIOs to demonstrate leadership capabilities, business acumen and strategic thinking. The emergence of these global competencies has resulted in CIOs being appointed from various disciplines of the organization. The “techie” CIO traditionally fluent in technology is no longer enough. A

CIO must now think like a business partner. The CIO must think in terms of organization's long-term strategic vision and operational goals and work to align the business's technology infrastructure and investment with those goals.

Skills of a CIO

For more insight and to better understand the role of the CIO we turn to "The State of the CIO" survey, from CIO Magazine. This "State of the CIO" survey is an annual survey that began in 2002 where over 500 heads of IT were randomly selected and invited to participate. The respondent's titles range from CIO, CTO and Vice Presidents in charge of IT. They are also made up of a broad range of industries including manufacturing, medical/healthcare, insurance, finance, education, and federal, state, and local government. In this survey they were asked about the personal skills most pivotal for success as a CIO (Prewitt, 2002). First we present the results of this question for the 2002 survey, then we will show 2006 and a comparison.

1. 70% Effective communication
2. 58% Understanding business processes and operations
3. 46% Strategic thinking and planning
4. 31% Thorough knowledge of technology options
5. 19% Negotiation skills
6. 17% Ability to influence/salesmanship
7. 10% Technical proficiency

These top skills give great insight into what the role of a successful CIO entails. We then analyzed the results of the latest survey in 2006 to gain a better understanding of the evolution of the role (Prewitt & Cosgrove Ware, 2006). The results of the same question for 2006 follow:

1. 70% The ability to communicate effectively
2. 59% Strategic thinking and planning
3. 54% Ability to lead and motivate staff
4. 50% Understanding business processes and operations
5. 22% Understanding industry trends, business strategy
6. 14% Thorough knowledge of technology options
7. 12% Negotiation skills
8. 12% Technical proficiency

The survey results clearly demonstrate the move of the role of the CIO from the more technical side to more of a business leader. These focal points are centered more on the business than on technology, reflecting a fundamental change in the role of the CIO. These top skills are the same skills you would expect to find at the top of the same list for CEOs. The skills near the tops of these lists clearly show that CIOs are playing an ever-increasing role in shaping and driving company goals.

Just in the four-year period between these surveys, strategic thinking moved up from third to second, and ability to lead and motivate moved up to third, with both lists ranking technical proficiency at the bottom. While this demonstrates the changing role of the CIO we must remember that for a CIO to be successful they must have a level of technical skill sufficient to meet the requirements of the role, the company, the technical skill levels of their peers, their staff, including the CTO, and the technical skill level of the CEO (Schubert, 2004).

Not surprisingly, of over 500 CIOs who participated in the survey, 70 percent picked communication as one of their three most important skills. The ability to communicate effectively is a valuable skill for all well-rounded business executives but for CIOs it can be imperative. A successful CIO must first be able to translate tech speak into regular operations speak (Lowery Massey, 2006). If the CIO cannot communicate effectively, their projects will die – either at the approval stage when the executive committee rejects them or at implementation stage when the users resist them. Another communication obstacle for CIOs is to effectively explain the limitations of technology so they are not constantly faced with unrealistic expectations from end users and fellow executives (Prewitt, 2002). In addition to these unique communication challenges for CIOs they are also forced to work in a very political environment due to the heavy dependence on IT in most businesses (Mullins & Klinowski, 2003).

The position of CIO has its unique challenges, which require effective communication as well as the need to communicate their vision, build relationships, and

ask the tough questions to discover the real issues. If a CIO is going to get governance right and build the company then they must have effective communications skills.

The fact that strategic thinking and planning is near the top of the list shows that IT has moved from a cost center to a business partner. No longer are the top executives asking IT “What is this going to cost” but are now asking, “How much is this going to make or save”. Strategic planning can be defined as trying to predict where an industry and business will be in three to five years and what is the technology that will get the company there (Prewitt, 2002). Strategic thinking and planning skills are critical because without them the CIO cannot help his company plan for the future or respond to changes in the market. Plus, good strategic planning can help the CIO have influence beyond the IT department. Strategy has become a distinct challenge for CIOs to provide value to their companies. CIOs need to do more than just, “keep the lights on”. They need to focus on technology that will provide a clear competitive advantage for business units.

Along with strategic thinking and planning, near the top of the list is understanding business processes and operations. Understanding business processes and operations is vital to CIOs since it is their responsibility to ensure that the company’s information technology investments are aligned with its strategic business objectives. A CIO who is going to be successful in aligning IT investments must understand all elements of the business and its goals.

As research for our report we interviewed Michael Winters, CIO of Ameristar, and asked him the same question, what skills are the most pivotal to a CIO's success? He responded, "Leadership in general, but that is very broad, the number one would be communication. Then understanding the business, how can you do strategic planning if you don't understand the business, or for that matter lead your staff. Leadership, motivation and mentoring your staff would also be near the top. All of these are keys to the job."

In addition to the most pivotal skills for a CIO, included in this survey was the question of how CIOs spend most of their time. The response also emphasizes the role CIOs have in the organization (Prewitt & Cosgrove Ware, 2006).

1. 65% Interacting with CXOs and business executives
2. 63% Making strategic system decisions
3. 51% Strategic business planning
4. 49% Leading projects
5. 47% Designing/optimizing business processes
6. 47% Hiring, developing and managing staff
7. 45% Interacting with IT vendors, outsourcers, and service providers

At the top of the list is interacting with CXOs and business executives highlighting the importance of communication. The next two relate to strategy and the fourth leading.

These results clearly demonstrate that the role of a CIO is directed towards working on the business rather than in the business.

Reporting Structure

The CIO has to understand the business, where it's going, what it needs, and where automation can be leveraged in order for the CIO to add value. The best way for the CIO to learn these things is by working with the senior management team or along side business unit heads. CIOs need to be in a position to build collaborative relationships with other business leaders. The CIO must also be recognized within the organization as the IT leader. Having the CIO report directly to the CEO can go along way in accomplishing these items. TechRepublic reported, "A strong relationship with the CEO is the single most important factor in determining the CIO's level of authority. Regardless of other factors, the CEO can help ensure that the CIO has an influential role in the strategic and tactical decisions that are made throughout the organization (Kost, 2003). We have found many quotes that illustrate the importance of this reporting structure. John Parker of A.G. Edwards said, "If the CIO is not near the top of the CEO's agenda then where is IT? No CIO who considers himself a business strategist wants to work in an organization where IT is viewed as merely a tactical function." Lorraine Rodgers, former CIO at Xerox and the city of Phoenix, says that reporting to anyone other than the CEO would be a problem for her. She goes on to say that the rank of her boss makes a whole heck of a lot of difference in how folks respond to her (Field, 2002). Due to the demanding role and the political nature of the position it is clear that the most beneficial

reporting structure is directly to the CEO. It should also be noted that the CIO should be a member of the corporate board or executive committee. The CIO will be required to make difficult, controversial decisions that affect the entire company, and must know that the CEO will support those decisions after appropriate consultation, even over the objections of others who directly report to the CEO (Kost, 2003). In fact this structure has become so important to the job that CIO Magazine has reported that many CIOs now demand such a reporting structure as a condition of employment (Field, 2002).

The next chart from the 2006 “State of the CIO” survey shows that the reporting trend has moved towards the CEO and away from the historical reporting structure of the CFO (Prewitt & Cosgrove Ware, 2006).

1. 42% Report to CEO (prior survey 40%)
2. 23% Report to CFO (prior survey 30%)
3. 16% Report to Other
4. 14% Report to COO
5. 3% Report to Corporate

The 2006 survey reported that 42% of the participants report to the CEO up from the prior year of 40%. More importantly, only 23% of IT execs said they report to the CFO, this is down from 30% in the prior year.

This question was also asked of Mike Winters during our interview. He responded, “I report to the CEO. I communicate with the CFO and the Board of Directors to keep them up to date but for day to day reporting it is to the CEO.”

Job Description

Based on our research our deliverable (appendix) is an example of an ideal job description for a CIO. The important points of the position summary are that the CIO should provide technology vision and leadership for developing and implementing IT initiatives. The CIO will provide oversight of systems, networks, information security, and telecommunication. The position must ensure execution of the vision for long-term sound infrastructure. The CIO will report directly to the Chief Executive Officer.

A few of the roles and responsibilities of the CIO are first and foremost a strong knowledge of the areas they oversee. The CIO must be forward thinking, provide long-term vision and strategy for enterprise architecture, understand the business needs, and provide leadership during technological implementations and migrations.

For education and experience this position requires a four-year degree and preferably 10 years experience in a management role. A good understanding of the organization’s environment and computing operations and how business structure is affected by change is desired. Leadership experience must include mentoring, team building, and motivation.

As for personal attributes they must be an intelligent, articulate, and persuasive leader who can serve as an effective member of the executive management team and who is able to communicate IT goals and concepts to a broad range of technical and non-technical staff. In addition, must be decisive, proactive, and exhibit high degree of integrity with excellent judgment.

CIO vs. CTO

Another component of our analysis was to clarify the difference between a CIO and a CTO. Because the traditional CIO role has expanded away from the hands-on technical involvement and into the strategic business operations alignment arena, some companies are supporting the CIO effort by bringing in a CTO.

As the right hand of the CIO, the CTO is responsible for designing and recommending the appropriate technology solutions to support the policies and directives issued by the CIO. In doing so, the CIO is able to marry the recommended technologies to the strategic business objectives of the company. This approach establishes the CTO as the technology specialist (Mullins & Klinowski, 2003).

As a technology specialist, the CTO should have a skill set similar to that of the CIO. However, unlike the CIO, the CTO should place more emphasis on a strong

technology background and, although important, less on business education (Mullins & Klinowski, 2003).

For a CIO to add value to the business, he or she must transcend the role of the technologist. Technological experience is a given in the field of IT, but what is genuinely important for a CIO is a variety of cross-functional experience and experience in roles that require communication with senior executives. This experience helps separate the difference between a chief technologist and a CIO. Successful CIOs are able to think beyond technology and align their vision of technology with the chief business needs and long-term business goals espoused by the other CXOs (Carrow, Schooler & Quinn, 2005).

Compensation

The analysis of the role of a CIO would not be complete without a quick discussion on the average compensation of a CIO. There is a wide range of salaries that currently exist, from an average of \$130K to over \$280K, depending on the roles and responsibilities associated with overseeing the various size companies. One interesting fact we discovered during our research was the average CIO compensation has risen only 1.4% since 2002 while inflation has risen 5.4% (Prewitt & Cosgrove Ware, 2006).

Conclusion/Summary

To sum it all up, a successful CIO needs to have their head in strategy but their feet firmly planted in good execution (Holmes, 2006). They must be a positive leader, an effective communicator, a persuasive negotiator, and a business savvy individual. Today, IT's role is strategic and a source of real value and competitive advantage for organizations that must have a business oriented CIO that can capitalize on IT. This is only going to continue to be more important in future years.

A decade ago a CIO was sometimes referred to as an acronym meaning "Career Is Over" due to the fact the CIO role was the pinnacle and hence the dead end of the technical career. Today this is not the case; the prominence of this position has risen greatly as information technology has become a more important part of the business. We are now beginning to see this role expanded further. More and more organizations today are hiring a CKO, or Chief Knowledge Officer. This position deals in knowledge, not just information. Knowledge today is a necessary and sustainable source of competitive advantage. In an era characterized by rapid changes and uncertainty, it is claimed that successful companies are those that consistently create new knowledge, disseminate it through the organization, and embody it in technologies, products, and services. While it is yet to be seen how popular the CKO role may become, the CIO has other options. In some organizations the CIO has now elevated to become the CEO.

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Appendix

Job Description

CHIEF INFORMATION OFFICER

Position Summary

The Chief Information Officer (CIO) is a key senior management position responsible for providing IT policy and aligning IT strategy with the business strategies. This position should also provide technology vision and leadership for developing and implementing IT initiatives that create and maintain leadership for the enterprise in a constantly changing and intensely competitive marketplace. This includes, but is not limited to the facilitation and oversight of systems, networks, information security, and telecommunications. This person ensures there is an overall vision for long-term sound infrastructure, and ensures execution of the vision. This includes defining and articulating standards and processes as well as on-going reviews and evaluations of new technologies for the benefit of the business. This position will report directly to the CEO.

Roles and Responsibilities

- Must be knowledgeable in each of these areas and is responsible for overseeing long-term vision for each:
 - Server hardware strategies
 - Telecommunication strategies
 - Networking strategies
 - Storages strategies
 - Data center strategies
 - Disaster recovery
 - Legal compliance
 - Security strategies
- Act as the advocate for improving the IT environment, taking the company to the next level for improved business practices. Push the envelope on who we can be as an IT organization and the technology we use as enablers for business success.
- Must be forward-thinking
- Work with executive management to ensure structured approach to capital acquisitions, articulating requirements and justifying requests
- Provide long-term vision and strategy for enterprise architecture
- Must be able to effectively establish strategic relationships with key IT suppliers and consultants
- Coordinate the research of emerging technologies and the timing of introduction of such technologies into the organization
- Provides leadership for the identification and introduction of new technologies
- Consult with users on technology capabilities and limitations
- Guide the overall technical direction for the company for infrastructure

- Provide technical direction to the Engineering teams
- Define strategic direction for infrastructure
- Understands business needs
- Collaborates with IT Operations
- Measures Architecture performance to determine areas for improvement
- Interact with internal and external clients to ensure continuous customer satisfaction
- Articulate implementation strategies for new technologies into our environment to Engineering Teams
- Provide leadership and guidance for critical system interactions during technology implementations and migrations
- Knowledge of integration, interoperability, consolidation, and monitoring

Education and Experience Requirements

- Four-year degree and at least 10 years experience in a management role
- Graduate degree desired
- Demonstrated technical knowledge on the components of an IT Architecture desired
- Good understanding of the organization's environment and computing operations within and how business structure is affected by changes desired
- Interpersonal skills
- Leadership skills
- Mentor
- Team building
- Motivation

Personal Attributes

- Must be an intelligent, articulate, and persuasive leader who can serve as an effective member of the executive management team and who is able to communicate IT goals and concepts to a broad range of technical and non-technical staff
- Work well with others
- Affect changes in a business-like manner
- Decisive
- Proactive
- Must exhibit excellent communication skills
- Must exhibit high degree of integrity with excellent judgment
- Display motivation attributes (self and others)
- Focused towards excellent customer service
- Must exhibit passion for excellence