

Chief Information Officers play a remarkably pivotal role in the Healthcare organization. The Chief Information Officer/Director of Information Systems/Vice President of Information Systems, regardless of the title for this position, the CIO holds a critical position within the organization. The CIO is one of the key 'Transformation Agents' who guides the organization through modernization and process re-engineering. The CIO is in the position to be a conduit of communication and an interdepartmental link because of the universal penetration that Information Systems has within any organization. The ability to gain access to managers throughout the organization also allows the CIO to become a consensus builder and a key facilitator for multidisciplinary projects. Therefore, the CIO can play a key leadership role in meeting the objectives of an organization.

The CIO is expected to possess extensive IT knowledge and business experience, which include basic workstation configurations to budgetary oversight and investment planning. He/she is expected to provide departmental leadership and maintain an enterprise-wide perspective.

---

***The CIO provides technical expertise to an organization's information technology related decisions, and he/she attracts and maintains IT support personnel with skills to support the organization's IT infrastructure.***

---



The CIO also provides project management and guidance during the implementation of IT related initiatives and participates in the multidisciplinary

goals of the organization. This is a tall order as organizations expect a lot from their CIO.

With so much responsibility being placed squarely on the CIO's shoulders, where are they to turn when they need help, guidance, or advice. Take information technology skills for example. Gone are the days when you bought a single mainframe system, and with it purchased support, training, hardware, and maintenance. Gone are the days where you depended on a homogenous staff of analysts with clearly defined, well-documented roles that were easily measured. Gone are the days where all IT related strategic decisions were made by central committees. The world has entered the 21<sup>st</sup> century and now the buzzwords are: open standards, client/server, integration, e-commerce, HIPAA compliant, and inter-networked. There are new software developments that potentially impact all the functions within an organization.

---

***The Information Systems department is expected to possess the skills to support and maintain each of these systems with the same efficiency that the organization has come to expect from their mainframe systems.***

---

Each piece of software comes with potential savings in manpower or an increase in the level of services provided. The push to purchase and implement these technologies comes directly from the department managers, sometimes even the executive directors. The underlying factor is the response to requirements placed on the CIO by competition, regulations, reimbursement, or promises made by vendors. Every time this happens, the CIO is faced with the challenge of providing the technical skilled personnel necessary to implement the project and provide ongoing support.

In the best case scenario, the CIO makes an informed hiring decision based on the best information available and with the help of a thorough analysis of the candidate's education, experience, industry certifications, and references. Working within a budget, he hires

the most qualified personnel available. The personnel settle into the roles providing technical support at the level assigned, and addressing day-to-day issues as they arise. In a perfect world, the personnel would spend off-hours reading trade publications and taking training courses on new technologies. Yet, they may still lack understanding in a key functioning area of a system that a department has deemed its panacea. However, in the real world, there is a mix of new hires with entry level to intermediate skills on newer technology and old hires, which have special skills or understanding in older technologies, therefore, gaps exist in the skill sets required to maintain and support existing systems.

---

***The CIO in the healthcare industry is being stretched by an ever-increasing number of projects and ever changing skills required to support the organization.***

---

Is it reasonable for the CIO to be expected to anticipate, evaluate, and manage the development of skills required to support emerging technologies? This would, to some degree, require the CIO to maintain expertise in the whole spectrum of technologies implemented by the organization and to stay abreast of emerging technologies. This could have been possible ten years ago, but today, based on the speed with which technology changes and the complexity of interdependent standard technologies, this expectation is becoming nearly impossible to fulfill. IT solutions were once homogenous technologies delivered by a limited number of vendors. Then, the CIO could be brought up to speed on what processes were required so he could evaluate the system and do problem solving. Today, the solutions involve numerous vendors, and many solutions depend upon a strong networking infrastructure. Vendors provide integrated solutions that build on the HIS systems and the existing network back bone. Consequently, it is difficult for the CIO to be an expert in all areas.

CIOs are forced to look outside themselves and their own experience to evaluate potential staff members. A new breed of technical gurus was produced with the decentralization of operations from a single vendor to multiple integrated vendors. These gurus are called Network Administrators or System Administrators. Much of the ability to implement solutions in the

organization today rests on how well network administration is conducted. Yet, how qualified is the modern CIO to evaluate the effectiveness of these new technical heroes? This is where the dilemma begins.

The CIO is expected to deliver on IT related projects that are purchased by the organization and answer for projects that are unsuccessful. Vendors can provide the organization with guidelines for implementing their solutions, but many processes fall back on the organization to provide reliable network systems for overall effectiveness. Information technology related projects have been known to drag out, go over budget, and occasionally fail to perform up to expectations, all of which are assumed risks. However, these things happen in some organizations more often than in other organizations. Therefore, it comes down to how the CIO evaluates the source of the problem. The CIO needs to be able to rule out internal causes to ensure that future projects are not compromised. The assessment of staff skills has to be impartial and informed because the future viability of the organization depends on the IT departments' ability to deliver on IT related projects.



It is not uncommon as a consultant or vendor to go on site and be met by a network in chaos, and have users and management praise the IS staff for managing the endless struggle to maintain the computer systems. It is almost as if the idea of a robust, reliable and easy to manage

computer system has never occurred to them. Yet, the computer industry, in response to the pressure to create more reliable, dependable and interoperable systems, has delivered. There are principles of best practices, which can be followed to help ensure reliable and secure operations of an organization's computer systems. However, network administrators can learn the language of system double talk and maintain skill sets that enable them to provide

basic functionality, and it becomes difficult for the CIO to differentiate whether they are technical geniuses or a serious threat to the viability of the organization.

Outside help is available. There are consulting firms that can assist in determining the source of IT related problems. However, the first step is to recognize the problem.

---

***Does the organization experience unexpected system down time, due to any cause, more than once or twice a year?***

---

Does system down time ever require more than a day to recover from? Are there complaints from the users or managers related to the service that they are receiving from the computer systems that involve IS? Has organizational data ever been lost that could not be recovered? Do the personnel in the organization ever imply that the IS personnel do not know what they are doing? If any of these questions ring true, then the CIO should consider the services of professionals who specialize in diagnosing and solving IT operational related problems.

---

***By choosing a consultant who could come into the organization and give the CIO honest feedback will strengthen the future viability of the organization.***

---

It can be difficult for the organization to conduct a self-assessment due to preconceived notions that already exist, political objectives, and lack of assessment knowledge. In addition, the evaluation of the personnel to function effectively in their technical roles requires the ability to evaluate technical skill sets. This ability requires that the assessors have both a firm understanding of the technical skills required to support the organization, and possess the analytical and communication skills necessary to conduct evaluations. In addition to these skills, the consultants should have a strong understanding of the healthcare industry and the organization's HIS system.

Services the CIO may require vary depending on the circumstances. These may include assistance with a single project that has fallen off the track, or may involve a complete functional assessment with a recommended

strategic action plan. An organization that has decided to make a significant process improvement initiative, such as PACS or document imaging, may utilize the services of specialists to provide project planning and oversight while utilizing their own staff for the resources required to implement the project. Another organization that has experienced deteriorating service over a significant time frame may contract to outsource process evaluation and reorganization. Yet, another organization that has been operating successfully under legacy systems, but is looking at upgrading to Windows 2000 to take advantage of increased security and manageability, without having the time or resources to retrain the entire IT staff before the upgrade, could receive project planning and implementation, skills assessment and training on the new systems by bringing in outside consultants.

The introduction of outside resources will expose the existing staff to a wider breadth of experience than having them learn on their own or relying on technical training facilities to provide instruction on new technologies. This is especially true if you choose a consulting company with years of experience consulting within the healthcare industry and specializing on the HIS system within the hospital. A consulting team that has implemented solutions in organizations with the same organizational structure as your own will help to ensure sensitivity to the problems that are unique to your type of an organization. The consultants often bring with them experience with solutions that they have seen implemented successfully elsewhere. This is a good way to assist existing staff to gain knowledge and acquire experience with technologies that they have not been exposed to in the past.



An organization that is lacking the discipline of well documented operating procedures and, thus,

has had difficult transitions due to personnel turnover, would benefit from an operational assessment of storage, security, systems

monitoring, and backup systems. This type of assessment can be conducted without putting additional burden on existing staff. As problems are identified and solutions determined, the organization may elect to have the consulting firm manage the implementation of improved operating procedures, or may choose to handle this with its own staff. In either case, improved day-to-day operational procedures reduce stress on the staff by increasing system reliability, reducing ambiguity in their roles, and increasing accountability. The organization becomes less dependent on key individuals and is no longer vulnerable to staff turnover.

The benefits to bringing in the experience and expertise of outside professionals are: greater end user satisfaction and IS credibility.

---

***Bringing in the services of an organization with a track record of successful project implementations allows the existing staff to be exposed to project implementation disciplines.***

---

This has the potential to improve the staff's approach to future projects and provides the staff with the skills to successfully follow a project implementation methodology. Outside vendors will be able to implement and support the organization's systems more effectively in an environment where the IS staff has good operating procedures. In the event that a computer system does fail, there will be less likelihood of catastrophic data loss, and there will be a reduction in the amount of time that is required to bring the system back into production.

There are organizations throughout the healthcare industry that are under pressure to manage their information technology investment. Chief Information Officers have a pivotal leadership role within their organizations, but many of them struggle with day-to-day operational issues or delivering on the implementation of IT related projects. There is expert resource help available to evaluate operational effectiveness or to fill in for the duration of a particularly busy period of project implementations. Over time, the benefits to the organization will be far-reaching as the organization builds its computer infrastructure to support the future of computer networking technologies. The cost of waiting could be as

little as lost productivity or as great as irretrievable data loss and the associated lost revenue. The burden on the CIO to be effective and to be of the greatest value to the organization can be strategically alleviated by using a best practice approach, and partnering with outside consulting resources for the improvement of the overall health of the IT department.

**The Shams Group (TSG)**  
**A Knowledge Management Consulting & Software Company**  
[www.shamsgroup.com](http://www.shamsgroup.com)