Transition Partners

The Effective CIO – Success Criteria in the 21st Century

Abstract

Change is the only constant in the development of Information Technology. Suggesting what the success criteria for a Chief Information Officer in the 21st Century involves understanding:

- How Information Technology has changed the past 40 to 50 years.

- Evolution from the "Head of Data Processing" to CIO during this period.

- Various forces at work.

- Key strategies now required.

- Successful traits for the CIO.

- A brief peek into the future.

How Technology has Changed

Lawrence G. Tesler developed the following *"Four Paradigms of Computing,"* depicting how technology has evolved the past four decades. For our purposes, the categories "Location," "Users," "User Status" and "User Activity" are the most interesting. They show a growing diffusion of technology away from the computer room and into the hands of the users – with their mobile devices and using their interconnectivity to communicate directly with each other, their vendors, their customers and their competitors.

Category	Batch 1960's	Time-Share 1970's	Desktop 1980's	Network 1990's
Technology	Medium Scale	Large Scale	Very Large Scale	Ultra Large Scale
Location	*Computer Room*	*Terminal Room*	*Desktop*	*Mobile*
Users	*Experts*	*Specialists*	*Individuals*	*Groups*
User Status	*Subservience*	*Dependence*	*Independence*	*Freedom*
Data	Alpha Numeric	Text, Vector	Fonts, Graphs	Script, Voice
Objective	Calculate	Access	Present	Communicate
User Activity	*Punch & Try (Submit)*	*Remember & Type (Interact)*	*See & Point (Drive)*	*Ask & Tell (Delegate)*
Operation	Process	Edit	Layout	Orchestrate
Interconnect	Peripherals	Terminals	Desktops	Palmtops
Applications	Custom	Standard	Generic	Component
Languages	Cobol, Fortran	PL/1, Basic	Pascal, C	Object Oriented

The Development of the "Head of Data Processing" in the 60's and 70's

In the 60's and 70's the organizational paradigm of the DP function often lagged sadly behind this diffusion, and the role of "Head of Data Processing" very often demonstrated the following characteristics:

- Because of the early laborsaving aspects of technology, and its direction toward clerical activities, the DP function almost always reported to the financial function.

- The 'Head' was **usually very technical**, having risen through operations and programming, and had **little business education** or experience.

- Because most computers were very large and expensive, and required substantial vendor involvement, the 'Head' understandably had a **"Big-Box" mentality and required close relations with the vendors**.

- That wasn't necessarily bad, but the 'Head' **often became known as a member of the 'Temple Guard'**, using access to the data center and applications software as a means of controlling users.

- **Everything was developed in-house, because "the users demand it."** As often an excuse as a statement of fact, there were careers to be built in developing highly tailored systems at enormous cost and risk. If these systems had been of competitive advantage, that might have been arguably a sound strategy. But often significant resources went into a new Payroll System, or Financial System, ignoring that these two areas, as examples, were among the first to be developed as marketable packages.

- Naturally, all this customized development required large staffs that were very compartmentalized and required extensive life cycle standards and coding and operations procedures.

- The 'Head' was **more of a bureaucrat than a manager**. Political acumen was necessary, as the value of technology was always indeterminate due to the lack of linkage to the business.

- **Steady state was very important**, with a strong emphasis on running the operations as a tightly controlled shop, inflexible and unresponsive to change. Venture operations were unheard of.

- Finally, **outsourcing** of any aspect of technology was a **sign of weakness**, that the IT shop couldn't handle it.

The Forces at Work – The Transition Years

But as the 80's and 90's came into view, the forces at work on business (shown below), as well as the technology to support the business, began to effect substantial change. For example, the recalibration of the industrial base combining the bricks and mortar businesses with an information-based economy enabled the organization to demass through interconnectivity, move aggressively into intellectual content and the distribution channels to deliver it, and the customization of products to fit a 'market of one' concept. This changed virtually every aspect of technology, taking advantage of smaller and more diffuse servers and clients, emphasizing interconnectivity, the need for graphic interfaces and alternative modes of data capture. Suddenly the 'Head' had to align information technology operations to the businesses, become far more responsive to change, substantially reduce time to delivery, and permit the empowerment of the user community.

Category:	Force:
1. Industrial Base	Recalibration
2. Organization	Transforming, Demassing
3. Characteristics	Operating vs. Financial
4. Distribution Channels	Ownership is the Key
5. Market Movement	From many to few
6. Investments	Overemphasis on the Physical
7. Literacy	Executive Involvement
8. Alliances	External

Some of the Strategies

Some of the strategies followed at the time by both business and technology included:

- Competitive advantage meant a realignment of resources to concentrate on those functions and businesses that are very fundamental to the success of the enterprise.

- Productivity measurements became important, and began to move from profits to revenues per employee.

- Point solutions gave way to Pathway solutions.

- Technology had to backward and forward integrate at the same time, and avoid discontinuities in technological leaps.

- The entire organization had to overcome resistance to change.

- The IT function, as well as some business units began to consider different paradigms of operations, such as utility vs. retail vs. venture; IT was forced to begin investing in ventures to prove a concept in its business before committing large amounts of resources.

- With the diffusion of technology has come the segmentation of applications and supporting infrastructure into portfolios, usually aligned with the business, and allowing more accountability for the business unit.

- And processes that show the data flow linkages between applications and external entities, "Enterprise Surveys," are becoming a major tool in showing the flow of data within and across business units.

What Type of CIO Does This Suggest? What Will be the Success Factors in the New Century?

Above else, the individual must be **business oriented first and a technician second**. This doesn't mean that the individual can't be technically competent, and, indeed, should be. But the CIO must approach each issue or problem from the business standpoint. A good question to constantly ask is: "What does this mean to me as a business person?" Arguably, if there is not a business reason for doing even the most technical step, it shouldn't be done.

- The key is **understanding the business as well as business executive thinking.** That suggests training in Accounting, Finance, Operations Management and Organizational Development that many CIO's just don't have. The CIO must also have the communication skills to be able to translate with fluency between the technical and business sides.

- If they don't, they won't be invited to the meetings and committees and casual discussions that only an **active player in the strategic direction of the company** attends. These discussions are where decisions are made, affecting every part of the business, not just technology.

- The CIO must be comfortable with change, and must be comfortable successfully managing in ambiguity. Change is the only constant on the horizon. Slogans like "accommodate or perish" and "not only is change increasing, but the rate of change is also increasing" are around for a reason. To make things worse, the CIO is often billed as the "change agent."

- Because of the wide diffusion of technology, and the difficulty and – some say – the inadvisability of trying to 'control' it, the CIO should be **a collegial facilitator, rather than a hierarchical power**. It's tough trying to tell a user that they can't go get their own technology – they just will. The effective CIO will be more of a shepherd than a despot. The CIO's role should be to mentor the individual business technology officers as they struggle with their own business environments and challenges.

- Along that same vein, the CIO must be more effective as **an enabler than as a temple guard**. First of all – there is no temple left! The pews have been moved out to the users, and the users are pretty bright. Secondly, they do need help, but not always on the CIO's terms. And, finally, they will follow only those standards, procedures, and policies that make business sense to them – as our first point above emphasizes.

- The CIO will most likely have a **small staff, concentrating on vendor contract administration, tech watch, and competitor watch**. In large measure, the more involved the CIO becomes in the strategic direction of the company, the less time he or she can devote to the traditional information services activities. The CIO can't manage projects, data centers, networks, and service levels for all – and be a part of all those business discussions we mentioned above. Being able to envision and champion innovative solutions for the needs of the businesses takes time to think!

- The CIO must be **more involved in developing technology solution strategies, alliances, outsourcing, and joint ventures** – anything to concentrate on the competitive advantage of the company. This is where the mark will be made – not running the best data center in two states.

- Finally, **corporate governance will be very important** and should be actively used. The CIO should be the facilitator to see that business colleagues determine the priorities of *all* technology – including that occurring in the user areas.

The Future

In summary, the future will be fast-paced, aggressive, high-stakes businesses in an eBusiness and information economy. To summarize some of its characteristics:

- Information is a *critical* part of the business.

- The CIO must know the *value* of information.

- Change will be the rule, not the exception.

- The CIO will have to control the chaos and enjoy the ambiguity.

- The CIO's role will move from dictator - to facilitator - of solutions.

- As a result, the CIO's role becomes one of finding the tools that allow the integration of diverse solutions into a cohesive working enterprise.