# Chief Information Officer, Redefined

*A closer look at the impact of changing business landscape*

Internal and external stakeholders of companies have greatly increased their expectations from CIOs and their information technology (IT) departments. Information technology is not considered as a risk anymore, where it was managed through IT governance and management, data governance and regulatory compliance. Moreover, information technology is no longer looked upon as a cost. Where, it has to be managed to increase cost efficiency and create higher return on investment. Information Technology has been taken on as a business function within an enterprise. Information Technology is considered as an added value to a firm; it increases shareholders' value and return on investments. Moreover, information technology improves information security and data quality, as well as enhances communication within a company's different business functions.[1] Therefore, leaders from information technology face large obstacles, where they have to constantly find the balance between IT and business alignment, compliance, risks, costs and effectiveness of delivery.[2]

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[1] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 67 May, 1, 2008

[2] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 68 May, 1, 2008

IT leaders in today's corporate world would have to take on great responsibilities in improving communication between different business functions leaders in order to streamline the management of the IT services and projects. Moreover, IT leaders would also have to leverage a more comprehensive approach to IT risks and controls to meet the heightened expectations of shareholders and regulators. Most importantly, IT leaders have to build credibility for the value of IT services by contributing to key business decisions.[3]

It's been 28 years since the role "Chief Information Officer" was first introduced in the information technology world. Just from the name of the title, people can easily understand how challenging this position is. According to Constant Contact's Online Survey on CIOs' role[4]:

- 26% of CIOs spent half their career in IT and half outside of IT
- 55% of CIOs say contributing to corporate strategy is one of their three top responsibilities
- 34% of CIOs manage another corporate function while running IT

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[3] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 73 May, 1, 2008

[4] Alter, Allen. CIO Insight. *The Changing Role of the CIO. 04 May 2005. May, 1, 2008*

*http://www.cioinsight.com/c/a/Research/The-Changing-Role-of-the-CIO/*

- 16% spend most of their time dealing with emergencies
- 55% report to the chairman, CEO or president of their company

As it can be seen in the survey, a CIO in today's corporate world would have to be able to handle multiple tasks with lots of responsibilities. CIO is a role that requires an executive that understands the technology world and able to perform as an excellent technology manager. Moreover, it also requires the executive to be a fully functional business oriented leader. Deborah Perelman has stated in her article *Bridging the CEO-CIO Gap* that "The best CIOs I have been around have been businesspeople and not technologists. They came out of business and grew into the technology role. They often need a strong CTO [chief technology officer] to support them, due to the technological nature of their work, but they often come from finance or marketing. At that level of the game, you have to know how business works."[5] A successful CIO requires a mix set of skills in order to excel in the diverse CIO role.

However, according to a survey conducted by *CIO insight*, "CIOs are still struggling to align IT investments with the broader enterprise strategies and

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5 Perelman, Deborah. eWEEK. *Bridging the CEO-CIO Gap*. 09 February 2007. May, 1, 2008.

http://www.lexisnexis.com.proxy2.library.uiuc.edu/us/lnacademic/results/docview/docview.do?docLinkInd=true&risb=21_T3629494023&format=GNBFI&sort=RELEVANCE&startDocNo=1&resultsUrlKey=29_T3629494027&cisb=22_T3629494026&treeMax=true&treeWidth=0&csi=262328&docNo=10

there are only 34% of organizations whom have strong links between IT priorities and enterprise strategies."[6] This survey and statistic shows how difficult it is to coordinate complicated activities between departments. So, what exactly is IT and business alignment?

Information technology is a type of intangible asset that does not have any value unless it is in the context of strategy. You have to know your organization's overall business strategy in order to determine which alternative will add the greatest value to the firm. David P. Norton has stated in his article, *Creating Strategic Alignment and Readiness for IT* that "strategic alignment is the dominant principle for creating value from intangible assets."[6] IT and business alignment is about bringing IT into accordance with the company's overall business strategy. IT departments have to go through continues improvement from merely a support group to an IT and business aligned state and further develop into IT and business convergence. When an IT department functions merely as a support group, it is only trying to keep up with business requirements. Moreover, it is far from reaching the market demands. It will fail to meet expectations and deadlines from other business departments. Most importantly, it has limited involvement in an enterprise's business strategy. However, when an IT

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[6] Norton, David P. The Balanced Score Card Report. *Creating Strategic Alignment and Readiness for IT. Pg. 1* May 1 2008.

https://compass.uiuc.edu/webct/urw/lc5116011.tp0/cobaltMainFrame.dowebct department is at the stage of IT and business aligned state, it is playing an active role in an enterprise's business strategy. Additionally, it is meeting all its expectations, deadlines and targets through good communications. During the so-called "IT and business convergence", the department helps achieve the synchronization of those separate units. Moreover, IT departments will play an active role in business operations and are heavily involved in an enterprise's strategic decisions. As a result, IT departments will exceed expectations and targets through strong communication and collective goals.[7]

Unfortunately, according to a *CIO insight* survey, "there are only about one-third of the responding organizations have an integrated plan for planning process in which IT priorities emerge from the business plan. The remaining two- thirds leave it to the IT organization to interpret the strategy and prepare its plan accordingly."[6] Organizations in the U.S. have yet to achieve IT and business integration and alignment, despite being the pioneer and industry leader in the IT industry. *CIO insight* and *Balanced Scorecard Collaborative* have conducted a joint survey, which collected perceptions and views from 334 IT executives and 300 business executives. Both the IT and business executives have unanimously agreed that companies in the U.S. still have a long way to go toward integrating IT with business strategy.[6]

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[7] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 69

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There are many companies in the U.S. currently lacking a well-defined enterprise strategy. Furthermore, those companies that do have a well-defined enterprise strategy, many have failed to deliver the message to their employees thoroughly.[6]

IT and business alignment is not an easy task. In order for IT and business to synchronize, IT department executives must work together with other business management leaders. Both must work together in order to create cohesive alignment.[8] IT departments need business management competencies to operate effectively and accomplish what the business requires. Yet, many times, IT departments do not seem to know what the business needs and do not always meet expectations. Moreover, the IT and business alignment also involves cultural, technical and or communication issues that IT departments have never dealt with.[8] David P. Norton has stated in his article, *Creating Strategic Alignment and Readiness for IT* that "for 20 years, information technology (IT) executives have been struggling to align IT with enterprise strategy."[6]

In an organization, there are usually three main drivers that guides companies to strive for IT and business alignment. The first driver is "direction"— it is a financial oversight and strategy that governs over annual

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[8] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 70

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budgets, approval of IT projects and monthly IT spending. It also involves the approval of unbudgeted expenditures, as well as the alignment between business strategy and IT strategy. Most importantly, firms utilize "direction to communicate business direction to IT departments. The second driver that strives for alignment is "development", which includes application and technology programs that assist other business departments to adhere to IT standards. "Development" also supports other business departments to fulfill application and business requirements in regards to government regulations and industry standards. The third driver is "delivery", which places an emphasis on operations and IT service delivery through communicated expectations and monthly performance reports. "Delivery" is utilized for project prioritization and data reliability and quality. Altogether, these three drivers will form the foundation for effective IT alignment with business objectives.[9]

It order for companies to achieve IT and business alignment, firms should focus their attention on a synchronized business strategy that has information technology closely integrated. According to Ernest & Young's model for alignment, "the IT department has to be tightly coupled with the business objectives."[10] Their model also suggests that IT department should

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[9] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 70 May, 1, 2008

[10] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 71 May, 1, 2008

come up with IT strategies that describe the capabilities of business requirements. As a result, the IT organization can provide different services that will enhance each business function and assist them in meeting the strategic business goals of the company.[10] As IT and business alignment is achieved, synergy is created. Business strategies are able to drive the performance of IT related projects, which leads to a common goal between IT department and business management functions. Furthermore, information technology is able to meet the demands of the business and the customers, as well as the projected expectations, deadlines and targets due to common goals and clear communications. As a result, there will be an increased in efficiency on performing IT processes. Positive feedback from customers and other core business functions leaders are given in return.[10]

With IT synchronization, greater achievements are reflected in revenue and financial figures. In a study performed by Ernst & Young on corporations across 50 industries from 2002 to 2006, Companies that are IT and business aligned showed an increased in earnings per share (29%), higher return on investments (14%), higher revenue growth (8%), higher return on assets (8%) higher return on equity (4%) comparing to companies that are not.[11]

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[11] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 74
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An enterprise that has achieved IT and business alignment would show traits of mature and documented IT processes. Moreover, formal IT strategy based on overall business strategy would also have been implemented. As a result, an enterprise would be able to structure, organize and priorities projects through strong communication channels. An enterprise with all the traits from above would be flexible and adaptable to changes. Furthermore, the overall success of an organization is contributed by leadership support from various functions within a firm.[12]

IT and business alignment has always been a CIO's priority. However, ever since Sarbanes- Oxley Act was passed in 2002, CIOs in today's corporate world has another major issue that they have to deal with, which is governance and compliance.

After Sarbanes- Oxley Act was passed in 2002 any corporate frauds have swept through the headlines in the U.S. Many large corporate officers were being investigated by prosecutors and many were found guilty. Sarbanes-Oxley Act of 2002, also known as the Public Company Accounting Reform and Investor Protection Act of 2002 is a United States federal law. It was enacted on July 30, 2002 in response to a number of major corporate and

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[12] Earnst & Young. Technology and Security Risk. *The IT* Balancing Act. 03 April 2008. Pg. 75

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accounting scandals.[13] These frauds have cost investors a great fortune as share prices of the affected companies were tumbling down the hill. Moreover, the frauds have affected the public confidence in US's securities markets.[13]

The Sarbanes- Oxley Act might be targeted at the financial markets. It is applied to assure that internal controls and rules are implemented correctly in governing the creation and documentation of information in financial statements.[13] After the Sarbanes- Oxley Act was enacted, CEOs and CFOs are required to sign Sarbanes- Oxley Act related documents. They have to assure that the company's financial statements are healthy and accurate. Since CEOs and CFOs are now legally responsible for the integrity of their company's financial statements, CIO's role has been given greater importance.

CIOs add values to companies to allow for agility and customer-centricity. However, the definition of their role remains ambiguous. For one, there is the question of whether they belong in top-level business management. According to Brian Gillooly's article, *CIO Role Revs Up; Rapid transformation marks CIOs' careers and their impact on the company*, there

13 Wikipedia, the free encyclopedia. *Sarbanes- Oxley Act.* 27 April 2008. May 1 2008 http://en.wikipedia.org/wiki/Sarbanes-Oxley_Act

has been an increased in the number of CIOs reporting to CFOs in the past five years.[14] According to Gillooly, IT was beginning to be seen as a cost center that had to be managed by scrupulous financial overlords.[14] Moreover, Shaun Coyne, VP and CIO at Toyota Financial Services, has stated that "as more CIOs take on business tasks, the rest of the organization is benefiting from that influence. A lot of the responsibility now involves putting automated tools in the data center to take complexity out, so the role has definitely changed from one of taking costs out of the data center and now providing strategic advantage to the business."[14] Evidently, the post-Sarbanes- Oxley Act impact on the diversification of top- level business management has revolutionized and redefined the roles of CIOs.

When Sarbanes-Oxley Act was first enacted, most of the companies in the U.S. did their Sarbanes- Oxley Act compliance by human effort. However, as the Sarbanes-Oxley Act has began to mature and understood by organizations. Firms are now moving towards the direction of automated Sarbanes- Oxley Act compliance.[15] Therefore, CIOs now have another

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14 Gillooly, Brian. Information Week. *CIO Role Revs Up.* 1, June, 2007. May 1 2008.

http://www.informationweek.com/news/showArticle.jhtml;jsessionid=UMMIXBY03CDFKQSNDLOSKH0CJUNN2JVN?articleID=199501097&_requestid=586306

15 Bartholomew, Doug. CIO Insight. *5 Best Practices for IT Risk, Governance and Compliance. 24,* August, 2007. May 1 2008.

http://www.lexisnexis.com.proxy2.library.uiuc.edu/us/lnacademic/results/docview/docview.do?docLinkInd=true&risb=21_T3629616079&format=GNBFI&sort=RELEVANCE&startDocNo=1&resultsUrlKey=29_T3629616093&cisb=22_T3629616092&treeMax=true&treeWidth=0&csi=262909&docNo=1

important task in integrating technology into Sarbanes- Oxley Act compliance.

There are five steps that CIOs are trying to follow in utilizing technology to improve governance and risk management:

1. CIO needs to develop a comprehensive, corporate wide understanding of how technology influences risk and compliance. Having an overall organization vision is extremely important, Jeffrey Weber, managing director from Protiviti's technology risk practice says, "it is important to first incorporate risk into the overall framework and lexicon of how you manage the organization." The IT department must be strongly involved during the process of identifying a firm's risk, process and systems that are needed to be compliance with the laws and regulations.[15]

2. CIO and his/her IT function must use technology to enforce and monitor compliance rules and processes. A firm must fulfill compliance efforts by establishing and maintaining controls in allowing employees to access information. An employee can only access data that are needed for his/her work. Employees cannot access information in other employees' area of work. This works as a preventive control, so that not one person would have total access to a transaction.[15]

3. CIOs need to understand and define the compliance requirements by law. Firms should not try to over construct their controls. Instead, firms should engineer their process in accordance to the regulators and auditors expectations. [15]

4. CIOs need to work in tandem with finance and compliance groups. A firm should always work together and as a whole. Compliance and related subjects will always involve CFOs and account controllers, as well as the CIOs and the chief privacy officers. Companies' compliance directors would always have to be sure that IT function is well aligned with other business functions within a company. [15]

5. CIOs need to inform his/her IT department in about the industry standards and introducing COBIT (Control Objectives for Information and related Technology). COBIT is a guideline to determine how well IT organization should be managed. Robert Worrall, senior vice president and CIO at Sun Microsystems has stated that his company uses COBIT to define the way the IT organization should be managed. [15]

In today's corporate world, large enterprises use IT systems to generate, change, house and transport corporate data. However, CIOs may be held liable for inaccurate data information due to the regulatory and compliance issue. As a result, CIOs have to construct controls that assure data information can sustain an audit scrutiny. CIOs are the administrators of enterprises data storages, which contain all the employees, customer, and business data. Therefore, ethical integrity is the number one personal trait that a CIO has to have. It can even be a competitive advantage for the enterprise where the CIO works at.[16]

Finding a solid CIO is extremely hard in today's world as its role remain ambiguous even amongst top executives. There is an overwhelming notion that CIO is in charge of the "technology" and do not necessarily add value. This is quite the contraire, as CIOs in today's corporate have an extremely important role. On top of aligning IT with business and achieving compliance with regulations and laws, CIOs also have many other important responsibilities in improving an organization's overall status. Basic infrastructure management, application development and managing ERP implementations are also areas where CIOs have to manage.[17] Ever since 2002, CIOs have shifted their focus from the technical side towards the operational strategy direction. As a result, CIOs need to be constantly

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16 Worthen, Ben. CIO.com. Sarbanes- Oxley: The IT Manager's New Risks and Responsibilities. 15, May, 2003. May 1 2008.

http://www.cio.com/article/31900/Sarbanes_Oxley_The_IT_Manager_s_New_Risks_and_Responsibilities/1

17 Levinson, Meredith. CIO.com. *Good CIOs are Hard to Find. They are Even Harder to Interview.* 30, April, 2008. May 1 2008.

http://advice.cio.com/meridith_levinson/good_cios_are_hard_to_find_theyre_even_harder_to_interview working with other functional executives. According to Henry Eckstein, CIO and VP at York Insurance Services Group, which provides data and services to financial institutions “I’ve pretty much stepped back [from technical operations], and now I focus mostly on working with the business community, making sure I have a clear understanding of business processes and needs.”[18] In other words, CIO needs to constantly make strategic systems decisions and work on strategic business planning in the diverse corporate world. CIOs contribute and add value to the overall business strength with their increasingly versatile role.

[18] Holms, Allen. CIO.com. *State of the CIO- The Changing CIO Role.* 1, January, 2006. May 1 2008. http://www.cio.com/article/16024/State_of_the_CIO_The_Changing_CIO_Role