I thought it wise to start with a definition of innovation, since that is what we are going to be talking about for the next while.

And what better place to get a definition than from Wikipedia, the innovative online encyclopedia that combines Wikis and user-generated content.

The classic definitions of **innovation** include:

1. *the process of making improvements by introducing something new*
2. *the act of introducing something new: something newly introduced* (<u>The American Heritage Dictionary</u>).
3. *the introduction of something new*. (<u>Merriam-Webster</u> Online)
4. *a new idea, method or device.* (Merriam-Webster Online)
5. *the successful exploitation of new ideas* (<u>Department of Trade and Industry</u>, <u>UK</u>).
6. *change that creates a new dimension of performance* <u>Peter Drucker</u> (Hesselbein, 2002)
7. *A creative idea that is realized* [(Frans Johansson)] (Harvard Business School Press, 2004)

The article goes on to look at the role of innovation and how to determine if something is really innovative:

In <u>economics</u>, <u>business</u> and <u>government policy</u>, something new must be substantially different, not an insignificant change. In economics the change must increase value, customer value, or producer value. Innovations are intended to make someone better off, and the succession of many innovations grows the whole economy.

The term innovation may refer to both **radical** and **incremental** changes to products, processes or services. In the organisational context, innovation may be linked to performance and growth through improvements in efficiency, productivity, quality, competitive positioning, market share, etc. All organisations can innovate, including for example hospitals, universities, and local governments.

Innovation is a process, and the "innovator" is often an organisation of people providing a diverse range of complementary skills and knowledge. Consequently, it is rare for just one individual to be an innovator. Innovation always comes with a potential risk and it is the responsibility of the innovators to assess and manage that risk. Innovation aims to introduce new benefits, which exceed those available from current "best practice". Innovation also introduces some degree of new, and possibly unforeseen, impact on the innovative organisation and others.

OK, so I guess we can all agree that Innovation is a good thing. It only requires a new idea, and everybody can do it.

Actually it is more than a good thing, It is fundamental to humans as a species that we seek out the new. Our heroes are those who conquer new territories and who make discoveries, whether geographic, scientific, or in business.

But we are CIO's. What does innovation have to do with us? Are we in the innovation business, or do we have a different role to play in our organizations?

For those of us who have responsibility for Information Technology investments and operations, our employers look to us to ensure that things keep running. In most cases, success can be measured by our ability to remain invisible. Like suppliers of water or electricity, we only make the headlines when something goes wrong. There is not much upside, and lots of downside, to running a complex back office or IT infrastructure.

We all know the statistics, and they all sort of blend together after a while. 55-70% of CRM projects fail. 70% of ERP projects fail, 70% of Supply Chain Management projects fail, and software projects always costs twice as much and take twice as long as predicted. Less than 10% of projects in large American corporations are delivered with the functionality specified at the beginning.

And yet we still come to work everyday, ready to be convinced that this time it will be different, this time we will have learnt from our mistakes. It may not be innovation, but it is definitely optimism.

But the topic is innovation, not reality. Before I depress everybody, let's look at how innovation works in a real IT shop. Our budgets, and therefore our financial resources for innovation are usually set by others. If you are organized as a cost-centre reporting to a CFO, then innovation is unlikely to be in your vocabulary unless it is about cutting costs. If you are a cost-centre in the slightly luckier position of reporting to the CEO, then budgets can usually accommodate some R&D funds, but for the most part, it is still about cost.

When a CIO sits as a member of the management team, the scope for innovation becomes more realistic. Now you are talking about business, not costs of technology. You are there because you can contribute solutions and ideas by using technology to meet business requirements.

But our definition for innovation includes something as simple as introducing a new process. And here is where I need to take a contrary position. Real innovation is not just change.

Actually, change is the enemy of the very thing we are trying to be, which is invisible. Change brings risk. Unmanaged change brings chaos. Change makes employees uncomfortable to the point of quitting, and change messes up documentation and process. The happiest IT manager is usually the one in whose shop nothing has changed for the past year, and whose SLA's are all being met as a consequence.

Let me take this a little bit further.

Unless we build and operate our own test and development labs, our primary sources of information abut our own profession, are trade publications, conferences such as this, and vendors.

And guess what, the vendors are paying for the trade publications and conferences. Which means that we really rely on a single source for information, our vendors.

Luckily, they are very generous, and supply us with white papers, templates with business cases that show to persuade our boss to approve the purchase, advice, and an endless stream of nice people to talk to. Actually, the nice people go away unless you buy stuff, but they don't hold grudges and come back very quickly when you place an order.

We are actually faced with close to a mono-culture in our suppliers of tools. There is one dominant supplier of operating systems, a couple of database suppliers, a handful of ERP vendors. And every week seems to bring another news story about another take-over. The market for business intelligence tools just shrank with another acquisition, this time of Hyperion.

In my own workplace, I have seen the choices dwindle dramatically. Every time we locate a small independent vendor, they seem to get swallowed up by one of the big serial acquirers. In fact, innovation in these large vendors seems to have completely stopped, and they rely entirely on acquisitions for new products, new ideas, and new talent.

One could conclude that size is the enemy of innovation, and that only small, nimble teams are in a position to innovate. Another way of saying this is that only someone with very little to lose can afford to take chances.

In our real world of daily IT operations and challenges, we are lucky to be able to evaluate and deploy, let alone research and develop. Most of us simply don't have the people, time, or money to launch speculative projects that may or may not work.

And yet, we are told that we should be innovative. Since the source of this advice is the trade journals, conferences, and vendors, permit me a bit of skepticism. Is it possible that in IT, innovation has become another euphemism for upgrades?

We were told during the dot com boom that if we didn't have a web-enabled business we were going to be road-kill on the information super-highway. And yet, the ones doing the fear mongering have imploded, and here we still are, some of us with shiny new systems, and some of us with what has always worked.

Our vendors look at us as a market to be sold to. We are segmented, CRMed, analyzed and influenced. If we don't naturally buy their product, then they need to stimulate demand. And that demand is classically based on FUD - Fear, Uncertainty, and Doubt.

This is a great term that describes a major innovation by IBM.

FUD was first defined by Gene Amdahl after he left IBM to found his own company, Amdahl Corp.: "FUD is the fear, uncertainty, and doubt that IBM sales people instill in the minds of potential customers who might be considering Amdahl products.

The other major approach is to create or identify a problem, and then offer to solve it. Until a consumer goods company created the fear of halitosis, otherwise known as bad breath, most people didn't know they needed to buy mouthwash.

Of course IT is more sophisticated, so our problems need to have fancier words and more expensive solutions. If one looks at the evolution of computing from mainframes to minis, to PC's, to client/server, to web, and now to Service-Oriented Architecture, one gets a clear view of something that has cleverly been called Marchitecture.

This is a term given to any form of architecture perceived to have been produced purely for marketing reasons. It may be used by a vendor to place itself in such a way as to promote all their strongest abilities whilst simultaneously masking their weaknesses.

I sometimes get the mental image of a corral, with all the CIO's inside like cattle, and the vendors outside figuring out how to rope and brand us.

This is not meant to be an attack on IT vendors, but I do get tired of having to pretend that we have a choice when it comes to the tools we have available for running our shops.

So the question becomes, is it really innovation when you buy a product and install it in your shop? Or is that implementation?

In fact, can you be innovative in the back office, or is it execution? The company that sold you the new tool may be innovative, but is your use of the tool meeting the benchmark of innovation?

Innovation is a high hurdle to set oneself for day to day operations, when what the customer wants is predictability and stability. There is a basic contradiction here. We are being told by our vendors to be innovative, while our employers want reliability and low cost.

Change is the enemy of good execution, and so innovation is not something that we can sustain on a daily basis. We risk intellectual bulimia from trying to keep up with vendor driven change.

True innovation is something that is likely to happen once in a career. Unless you are working in a vendor environment or product development organization, the chances to be part of a real innovation are slim. You will however, have a daily opportunity to execute better than your competitor.

It is difficult to be managed by people who only know how to count costs instead of benefits. It is discouraging to be in an industry with such a concentration of suppliers that one has to follow the vendor's roadmap instead of your own. It is disheartening to watch the guy in the front office making millions in bonus from trading on the systems that you build and run, usually without recognition.

But perhaps I am being too harsh. We are all bright people, and we choose to work with, and for organizations.

I would argue that the real challenge lies not in innovation, but in execution. When everyone has the same tools, it is execution that separates the good from the merely average.

It is the day to day work that is necessary to make a complex and fragile set of systems function. It is the imagination and discipline that allows one manager to be successful while another fails. We rarely create new products and services, but we do gain competitive advantage from how well we operate.

To avoid bruising our vendors again, let's look at another industry that has few suppliers, and many customers. I suggest we consider the airline industry.

If you want to run a long-haul airline, you basically have two suppliers to choose from, either Boeing or Airbus. Interestingly, they also supply trade publications, conferences, and white papers. And if you place an order, they have really nice people who talk to you, and they even give you rides in their product.

Each of these companies is driven by the need to innovate. They periodically take huge gambles, investing amounts that will destroy the company if they are not successful.

Their customers are all in the same business. They transport people from one place to another, using exactly the same equipment as their competitor. The innovation for the supplier is clear; they need to continually improve their product to beat the competition.

But where is the innovation for the customer organization? Why are some long haul carriers profitable and solid, while most of the industry lurches in and out of bankruptcy?

And why are we will to pay more to fly on one airline than another? I can travel from Singapore to Amsterdam in business class on either KLM or Singapore Airlines. The price difference between the two is almost 75%. They both fly the same physical aircraft, a Boeing 747, and the flights leave within minutes of each other. How is SQ able to command a premium over its competitor?

Execution.

It was innovative to create the Singapore Girl marketing campaign, but it is the daily need to deliver the promise that requires execution from SQ. In more ways than I can count, a large team of people, equipment, and systems have to function at a level that earns the premium being charged. Like most organizations, they have good days and bad days, but they do understand the promise they have made, and they execute to keep that promise. Some of that is IT, but it is the entire Company working together that produces the outcome.

Our role, the role of the CIO, is to understand the business, and apply information technology to solve problems and create competitive advantage. Innovation is one source of advantage, but I would argue that an even more important source is execution.

So how should you allocate your time as an innovative CIO that knows how to execute?

The founder of Visa, Dee Hock, is one of the great innovators of the past 50 years. He conceived and drove the creation of what we all take for granted today – a universally accepted credit card.

Hock describes the 4 things that one needs to manage to be successful. The first is yourself, then your boss, your peers, and then hopefully with less than 5% of your time left, your subordinates.

Hock is making the point that we are subjected to many conflicting demands, and that we often fall back on giving orders to others rather than managing the relationships that actually determine our success.

We let the pressures and deadlines of our jobs prevent us from the continual learning we need in order to stay current and useful. It is tempting to put off reading another white paper, or attending a seminar, because of work.

When I look back on the knowledge I have about technology, I realize that it has a very short shelf life. I have been working with computers since punch cards were the main form of data entry. I know how to sort a data set by setting up a card sorter. I know how to change a ribbon on a Decwriter terminal. I know how to write programs in dBase, and to write documents in WordStar. I have used so many different operating systems that I have lost track, from Xerox Sigma 9 to Honeywell CP6, to CP/M to DOS, to Windows, to Unix and Linux and, in a moment of pure madness, Apple OSX.

The same thing would have happened to a programmer trying to stay current - COBOL, FORTRAN, PL/1, APL, PASCAL, Basic, C, dBase, C++, SQL, Java, PHP, Python, Ruby and so on.

The point is that unlike someone who works in a more traditional discipline, we work in an industry that rewards newness, not experience. The only certainty we have is that our technical knowledge is being made obsolete at this very minute by someone, somewhere, working on the next great thing.

This is not a complaint.

It is a celebration of why most of us chose this field of endeavor. We are change junkies. We love the newest software, the next breakthrough, the cool gadget. And by putting ourselves on this treadmill of change, we have to keep running just to stand still.

In the scramble and compromise of day to day pressures, we risk becoming people with a shallow familiarity with many things, but no in-depth knowledge of anything.

Except that one thing has never changed in all the years that I have been working.

Business is about providing customers with what they want. It doesn't matter if you are in the private or public sector. We get paid because somebody wants to buy what we are providing.

All the technology in the world does not change the reality that in business, you are setting out your stall and hoping somebody will buy. We can pretend we actually control the process and use tools like ERP and CRM and BI to generate reams of data that prove we understand the customer, but at the end of the day, individuals make buying decisions. Our job is to make them buy from us, and to deliver the promise that we have made.

As innovative CIO's, we need to embrace the constant change with which we are surrounded, while managing ourselves, and our key relationships to ensure that we stay connected to our organization.

Ultimately, we are judged on how well we execute.

More definitions of Innovation:

The Clorox Company, Research and Development: We define innovation as the implementation of creative ideas to produce new or improved processes or products. We do not limit our view of processes and products to those that are related to goods sold to consumers. Instead, we also include better ways of doing our jobs and new tools that make us more productive. This broadened view allows us to fully engage all employees in our creativity/innovation program and to tap into the creativity that is in us all.

Dell University: Innovation is the ability to use experience, creativity, and inspiration to design alternative methods that will increase productivity, improve processes and people .... to name a few. Another important component of innovation is implementation. Creativity and implementation are the foundation of innovation.

Richard Saunders International's Eureka! Ranch: Innovation is the creation of ideas that are relevant yet unexpected. Innovation is creativity put to productive use.

YMCA of Metropolitan Chicago: We define innovation in terms of developing and implementing our dreams - developing and implementing new programs, products, and services that have value related to our mission and the needs of our markets.

Marshall Industries: Innovation is the constant pursuit of new ideas, methods and devices that produce non-linear breakthroughs, improvements in customer satisfaction, productivity and the intellectual capability of our organization.

SleepNet Corporation: Broadly speaking, we define innovation as the courageous act of creating something unique. It takes true courage and passion to attack conventional wisdom -- including your own ideas -- and fail your way to the achievement of something truly different.

Washoe Health System: At Washoe Health System innovation is defined as a culture or an attitude we are constantly striving to create that encourages new and different ways to blend caring, quality and service for our customers.

Ford (MP&L) Team Learning Center: Innovation is the relentless application of our natural ability to create new and better ways of enjoying life and working together. Successful innovation lies in our willingness to harness the power of chaos at the individual, team and organizational level. The innovative spirit is truly in every one of us and it can only be fully released in a supportive, team oriented culture. Clearly, the focus of 21st century business will be the transformation of its workforce into a culture that brings out the most innovative and collaborative thinking of everyone at every level - harnessing the power of chaos.

RJ Reynolds Research and Development: Innovation is the transformation of novel, different and useful thoughts to ideas, the application of those ideas toward targeted endpoints and the implementation of those endpoints to either improvements in the current business products and processes or the creation of new businesses and revenues.