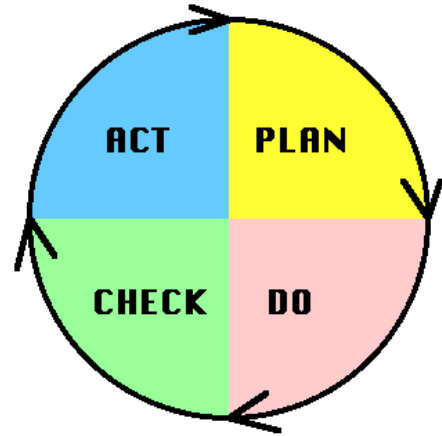


November 2005

### Business Best Practices Applied to Sport

There are several performance management systems in use today: six sigma, Malcolm Baldrige, ISO 9000, Capability Maturity Model. Over the past year at Coaching we have been working on the balanced scorecard approach to performance management but today I am going to group my best practices experiences under the simple Plan Do Check Act model. This was first introduced by Walter Shewhart in the 1930's when he was working at Bell Labs, then part of AT&T. As the theory goes any management project should follow the cycle: plan what you are going to do; do it; study the results; make corrections and then plan for the improvements starting the cycle again.



Reference: <http://www.balancedscorecard.org/bkqd/pdca.html>

So, here is my list, which I have sorted under the Plan Do Check Act cycle. We will not go through all of these today as each one has a story and we want sufficient time for group exercises this afternoon.

#### Plan:

- 1) Conceptual pictures help formulate strategy
  - The long tail ([http://longtail.typepad.com/the\\_long\\_tail/](http://longtail.typepad.com/the_long_tail/))
  - Strategically important vs. internal competence
  - Market share vs. market growth rate
  - ([http://en.wikipedia.org/wiki/BCG\\_growth-share\\_matrix](http://en.wikipedia.org/wiki/BCG_growth-share_matrix))
- 2) Shorter is better (schedules, cost, response to customer expectations ...)
- 3) Look for what is missing
- 4) Look for unintended consequences

#### Do:

- 5) Surround yourself with excellent people.
- 6) Be respectful, situations change
- 7) Manage in the situation (<http://www.chimaeraconsulting.com/sitleader.htm>)
- 8) Work is done through process (not through the hierarchy)

#### Check:

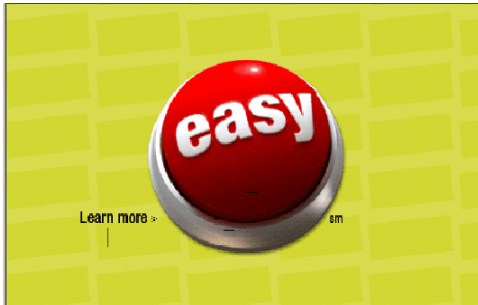
- 9) Expect what you inspect
- 10) Manage by walking around
- 11) The power of positive feedback
- 12) Ask and listen (and respond to)
- 13) Data is an organizational asset
- 14) ESat → Customer Loyalty

#### Act:

- 15) Look for root cause
- 16) Apply the House rules

Every one here is involved in projects so let's apply these "best practices" to the project management discipline.

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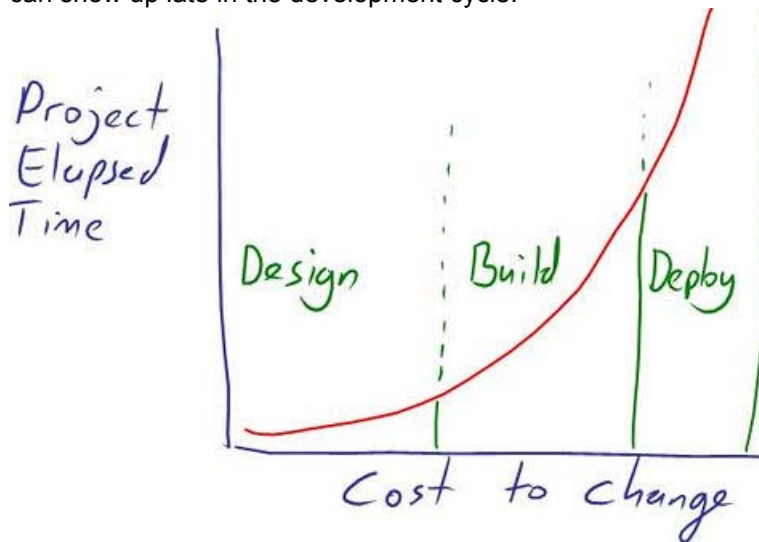


**Sad to say there is no easy button in project management!** There are, however, some practices that can help you through it.

Reference: <http://www.staples.com>

## Plan

The first is to **have** a plan. In the end it won't be exactly what you do but it does get you started, it breaks complexity into smaller manageable pieces and it builds a shared view and establishes some common goals across a team. Also, good planning reduces project cost because good planning avoids costly changes which can show up late in the development cycle.



I have learned to start project planning by attempting to build some type of conceptual framework for the team. Why are we doing this project? Will the realization of planned project outcomes achieve the intended purpose? Does the purpose actually contribute to the overarching goals of the organization? You have heard the expression, "The operation was successful but the patient died." There are tools that can help you with these kinds of questions but the easiest is simply to write down as a team what are the project inputs, activities, outputs, expected results and organizational goals. The result is called a Logical Framework Analysis. The logic is that if the inputs are available and the assumptions are true, then the activities can be executed; if we do the activities and the critical assumptions are true, then the outputs will be achieved; if the outputs are achieved and the assumptions are valid, then the purpose will be achieved; and if the purpose is achieved and the assumptions are valid, then the goals will be achieved.

The structure of the **LogFRAME** is shown diagrammatically below:

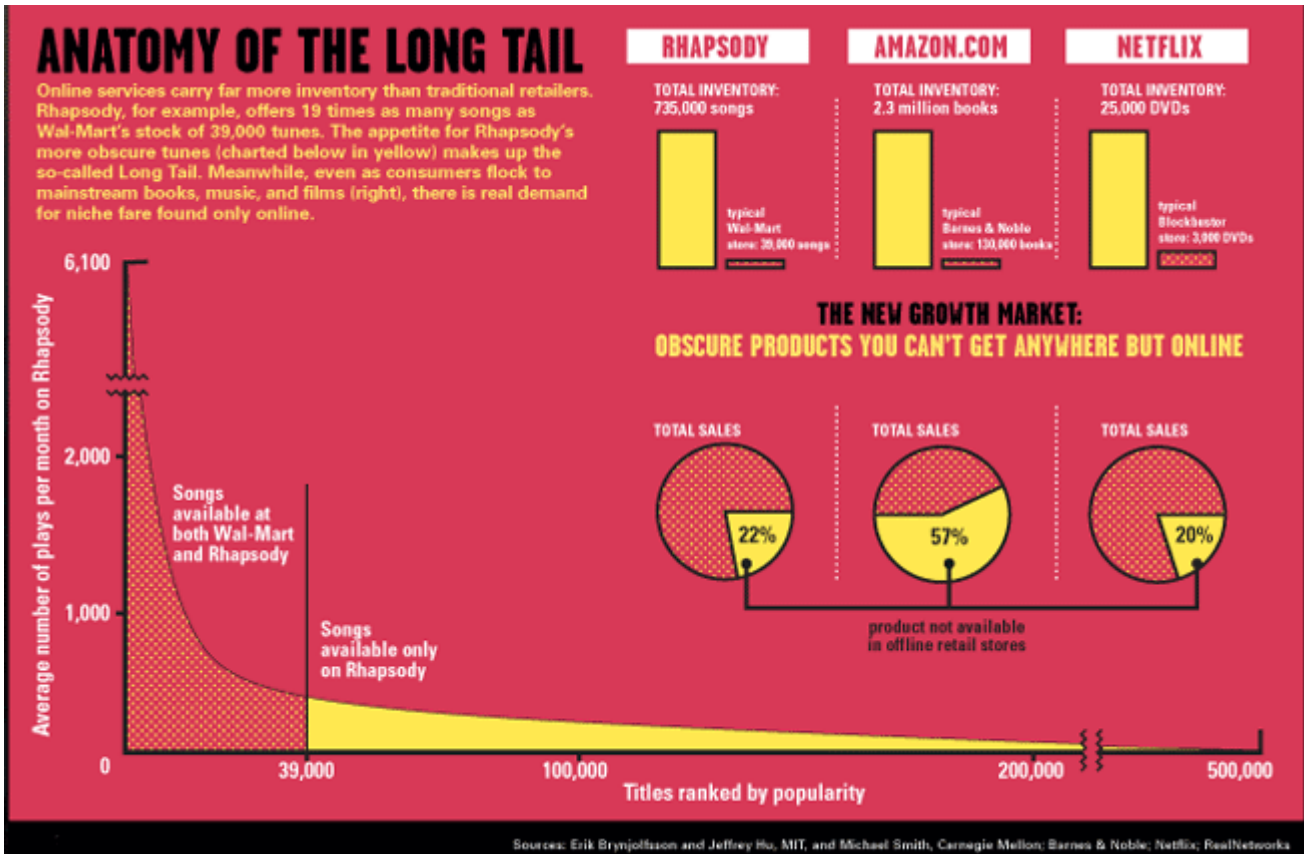
Hierarchical Objectives	Key Performance Indicators	Means of Verification	External Factors
<b>GOAL</b>			
The higher order objective to which the project contributes.	Measures to verify accomplishment of the GOAL.	Sources of data needed to verify status of the GOAL level indicators.	Important external factors necessary for sustaining the objectives in the long-run.
<b>PURPOSE</b>			
The effect or impact of the project.	Measures to verify accomplishment of the PURPOSE.	Sources of data needed to verify status of the PURPOSE level indicators.	Important external factors needed to attain the GOAL.
<b>OUTPUTS</b>			
The deliverables or Terms of Reference of the project.	Measures to verify accomplishment of the OUTPUTS.	Sources of data needed to verify status of the OUTPUTS level indicators.	Important external factors needed to attain the PURPOSE.
<b>ACTIVITIES</b>			
The main activities that must be undertaken to accomplish the OUTPUTS.	A summary of the Project Budget.	Sources of data needed to verify status of the ACTIVITIES.	Important external factors that must prevail to accomplish the OUTPUTS.

From: <http://www.pmsa.com.au/LogFrame2.htm>

This is actually a little more difficult than it first looks, so some other conceptual tools might be required before the team can produce this document.

For example, often the team is faced with such questions as what should be **in** and what should be **out** of the project. Filled with enthusiasm and ideas, the team often puts too much in. That is actually OK in the early stages, because it is easier to take out content later than to insert new content but at some point in the planning cycle it is important to limit the project to what is truly needed and what can actually be done.

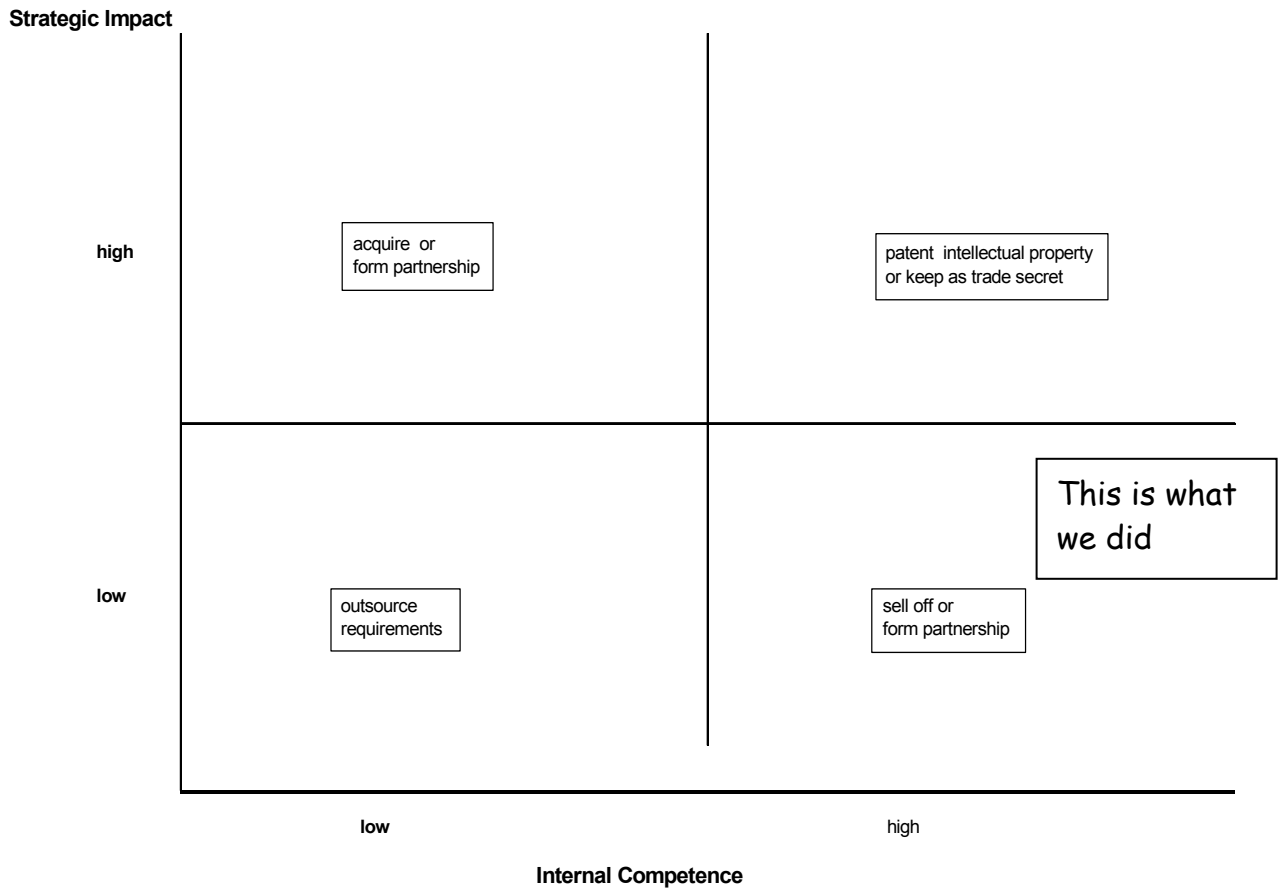
One technique, which is really just a more accurate depiction of what you might understand as the 80/20 rule, is called *the long tail*. The long tail is a colloquial term for a well-known feature of statistical distributions. In these distributions a high-frequency or high-amplitude population is followed by a low-frequency or low-amplitude population which gradually "tails off". In many cases the infrequent or low-amplitude events—the long tail, represented here by the yellow portion of the graph— can *cumulatively* outnumber or outweigh the initial portion of the graph, such that in aggregate they comprise the majority. (From [http://en.wikipedia.org/wiki/Long\\_Tail](http://en.wikipedia.org/wiki/Long_Tail))



Reference: <http://www.wired.com/wired/images.html?issue=12.10&topic=tail&img=2>

What the project team must understand ahead of time is what part of the distribution they are going after. Are you working in the red or are you working in the yellow. There are valid business cases for either but generally not both. Traditionally, firms have gone for the red: those 20% of features desired by 80% of customers. More recently as in this example from cited by Chris Anderson in Wired magazine, businesses have become successful by operating in the yellow tail. Anderson observed that products that are in low demand or have low sales volume can collectively make up a market share that rivals or exceeds the relatively few current bestsellers and blockbusters, if the store or distribution channel is large enough. Examples of such mega-stores include Amazon.com, Netflix and even Google. The Long Tail is a potential market and, as the examples illustrate, successfully tapping in to that long tail market is often enabled by the distribution and sales channel opportunities the Internet creates.

Other conceptual tools used in the early stages of project planning are what I call, conceptual grids. There are many examples such as market growth rate vs. market share, or degree of knowledge vs. importance of that knowledge which help a team make decisions without complete data. Here is one I was involved with when we were trying to decide what we should be doing with intellectual property we had developed in computer S/W tools for electronic circuit pack design.



Projects, any activity really, can have unintended consequences. In medicine, unintended consequences are known as side effects. Many drugs have some side effects. As with other unintended consequences, these are often negative, but are sometimes beneficial; for instance aspirin, a pain reliever, can also help prevent heart attacks. The introduction of rabbits into Australia for sport led to an explosive growth in population, and led to rabbits becoming a major pest in Australia. Prohibition, in the 1920's, intended to suppress the alcohol trade, drove many small-time alcohol suppliers out of business, consolidating the hold of large-scale organized crime over the illegal alcohol industry. Sixty years later, the "War on Drugs", intended to suppress the illegal drug trade, has driven many small-time drugs dealers out of business, consolidating the hold of large-scale organized crime over the illegal drugs industry.

What was the unintended message in this recent picture taken from the FEMA web site?





Actual chart from FEMA website.

***Are there any potential unintended consequences of your projects?  
Can these be rated in terms of seriousness and probability of occurrence?***

Scheduling is an important part of project planning. I am not going to crunch through the many possibilities of scheduling tools but here are some experiences, mistakes if you like, that I have made over the years.

#### **Common errors to discuss**

- **Not having a schedule**
- **Soft or no milestones**
- **All will go well**
- **The person-day**
- **Approval time**
- **Priority interrupts**
- **Testing is a small part at the end**
- **Focus only on what has been included**
- **Urgency governs**
- **Certified by hunches**
- **What to do when an essential project is behind schedule**

First of all let me say that short projects tend to be more successful than long projects. Large projects are more successfully managed if they can be parsed into a series of smaller projects or project sprints as one system calls it. (<http://www.amazon.com/exec/obidos/tg/detail/-/0130676349/102-1826474-1040116?v=glance>)

Each sprint has a sprint goal, a sprint planning meeting with clear identification of the backlog - work that must be done to meet the sprint goal, and regular scrums where members of the team talk about what had been done since the last meeting, what will be done before the next and what was impeding work. The outcome of a sprint is an executable product or service increment. In this way a sprint can be kept to 1 to 3 months long and a sprint team to 5 to 10 people.

Having a schedule with crisply defined milestones is better than having no schedule, but don't expect everything to unfold as planned. Most of the time though, it is not the 10% error made in the estimate of the task that gets a project into trouble; it is the tasks that are left out altogether. When a team is reviewing their plan with me, I tend to focus less on what is there – they have already thought about that and probably know more about it than I do. But what is not there? What is missing from the piece?

In 1975, Frederick Brooks, the project manager for IBM's first large computer mainframe – System 360 - wrote a book called *The Mythical Man-Month*. We would say person-month today. Think of picking strawberries. If I have 20 rows of strawberries and one person can pick one row in an hour, then how many hours are required to pick the field? If I add a second person, how many hours? If I have 20 persons? If I have a project requiring

20,000 new lines of software code and one person can write 100 lines of error free code per day, how many days are needed? If I add a second person, how many days? If I add 20 persons? What is the difference between these two cases?

In the first case, the tasks were partitionable among many workers and no communication was required among them. This is not even approximately true of professional work. When a task cannot be partitioned, the application of more persons has no effect on the schedule – think of a woman having a baby. In tasks that can be partitioned but which require communications, then the effort of communications must be added to the amount of work to be done. Intercommunication is even worse. Three workers require three times as much as two; four require 6 times as much. Eventually you reach a point where the addition of more workers actually slows a project down rather than speeding it up. Thus the concept of the person-month, the trade off between concurrent effort applied and time to complete, is a myth.

In the interests of time I will skip a few points but close this section with the question, “What does a project manager do when the project gets late?”

Well, what are the factors that control a project? Content, cost, time, people? That is how many managers think. But there is a fifth factor. It is quality. Pushing on the first four too hard can cause the unintended consequence of reduced quality.

### **Do**

Do you want to be successful? The formula is easy, surround yourself with excellent people. This is not a strategy for the meek however. These people will challenge you, argue with you, and be right about things when you were wrong. And in the end, they will pass you by. Live with it. Eventually it becomes your greatest pleasure – watching “your” people succeed. Learn to be respectful with everyone you engage. You might be the boss now, but things change. On more than one occasion in my career people that reported to me I ended up reporting to them.

### **Check**

There is an old rule in management and that is to expect what you inspect. If you are not measuring it you don't really know what is going on. And, if you are measuring it, it will get better. Constant and consistent measurements are the heart of any business performance management system. You are working on a software product. How do you know when it is ready for release? The schedule tells you when it should go but not if it is ready. We measured problem reports. Any person, developer, tester, system integrator, even lead customer, who has a problem with the code enters a problem report. The problem report is linked to the source code management system so that you can to what code sections are related to what reported problems. The arrival rate of the problem reports is tracked daily.

As each problem is cleared, the solution rate is tracked as well. Clearly, if the arrival rate is greater than the solution rate, the code is not ready. At what point is it ready. It depends on the pre-agreed standards for each type of release. Is this alpha code? Beta code? General Release code? Is this a version-one stream or a version-ten stream? The standards become stricter for more mature code. What was amazing was that the more things we measured and made available to the team, the better things got.

At one point I was managing about 75 semiconductor design engineers. Hard tooling for a new chip at the time was costing about a half million dollars. (It is several million today). If the chip came back with design errors, and it always did, then we had to fix and go for new tooling. So we started counting design errors per 1000 gates – a gate is the smallest identifiable circuit on a chip. Ten errors per 1000 gates, then 1, then 0.1. We had to raise the ante by measuring errors per 100,000 gates, then errors per million gates. Over a four year interval we made a 1000 fold improvement.

At another time in my career, I was managing the IT department of a large R&D organization – 700 people providing services to about 18,000 R&D workers. I stole a page from Bill Hewlett, one of the founders of

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Hewlett-Packard. He called it Management by Walking Around. (<http://www.amazon.com/exec/obidos/tg/detail/-/0887308171/102-1826474-1040116?v=glance>)

I would have what I called my “workdays”. One day a month I would shadow one of the employees, go where he goes, do what he does. I would find out more stuff that day than all the other days of the month. Once we were delivering computers to new or recently moved employees. At one point I arrive with the heavy monitor in my hands to put it on the desk. Well, there was no desk. There was no floor! Just two guys crawling around under the sub-floor fishing wires to what was to become the workstation for the new employee – not to be ready for another 2 days. The same day I arrive at another workstation with another computer and the employee says, “Where have you been, I needed that computer 2 weeks ago.” He had his current computer in pieces spread out all over his desk trying to make it work. That was when it came to me that work is accomplished in a process. We had two separate organizations delivering services to the employee. One was Real Estate responsible for the physical work space and one was IT responsible for the computing work station. Each department used their own information system and delivery process but they were not integrated – thus a desktop computer but no desk. At that point I was given the Real Estate department and told to fix it.

I have many more stories about what I learned on the help lines and the telephone operator lines – those were the days when you actually had telephone operators, but I’ll have to save them for another day.

I attended a 3-day course at MIT a while back and was told this interesting story. There was a school, in Seattle I think, that consistently scored higher than any other school in the US on standardized grade school mathematics tests. A team was sent to find out what was going on. Apparently the teaching technique was to tell each child what a good job they were doing every time they got a correct answer on the practice tests. The more positive feedback given, the faster the child provided correct answers such that they developed a style of writing these answers moving first from left to right on the first line of the page to right to left on the second line so as to not waste time moving the pencil from right to left to start a new line. The visitors were astounded but the real kicker to the story was that this was a school for the mentally disadvantaged. The story stuck with me and I developed the habit of carrying ten dimes in my pocket to work. I would start them in my right hand pocket and transfer one dime to the left hand pocket every time I caught someone doing something good such that I could provide some feedback. The objective was to have moved all dimes from one pocket to the other by the end of the day. It became quite easy to do so I upped the number of dimes but eventually they became too heavy and I somehow fell out of the practice. During those years my department had the highest employee satisfaction level of any group in the company – in the mid to high 80 percent range.

We were gathering data about customer satisfaction. Long questionnaires were sent to customers once or twice a year so that we could determine how “satisfied” they were. Expecting what we inspected, we watched this number grow from the low 60 percents to the high 70 percents. We were also measuring employee satisfaction using a similar survey process with 100 questions or so but 10 very leading questions. We were unable to relate the two metrics. Then we discovered something interesting. We started defining the “loyal” customer. Customers who scored 5 on a 5 point scale to the leading questions, “Would you buy from us again?” and “Would you recommend us to another potential customer?” Here the results were in the low thirties. But they were strongly correlated to earnings and, surprise surprise, strongly correlated to employee satisfaction. For the first time we had the business case to invest in the improvement of employee satisfaction. We watched the customer loyalty numbers rise to the high thirties and when it started to decline, after 6 months earnings declined as well so customer loyalty became an early warning signal deserving executive attention.

### **Act**

Things go wrong. You can expect that. But why? I have seen managers solve three problems before they get their coat off in the morning. “I can never get anything done because I’m always solving other people’s problem.”

What was happening was that the manager was solving the same problem over and over again. It is just that the problem was coming back I disguise as a different problem. He never got to root cause.

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Well, how do you know? There is no real answer to that but just keep asking questions. Some important work didn't get done on time because a key employee was absent.

Well, "Why?"

"She slipped in the hallway and banged her head."

"How did that happen?"

"There was some oil on the floor."

"How did that get there?"

"The bearings on the trolley cart we leaking."

"Why didn't you replace the bearings? Doesn't the trolley cart get regular maintenance?"

"Well, no. You cut the budget for the maintenance department six months ago."

Ah! As Pogo used to say, "We have met the enemy and the enemy is us."

I guess you are too young to know about Pogo. The point is, ask questions. Ask "Why" five times if you have to, but get to the root cause and you will be fixing fewer problems because the old ones won't keep coming back to haunt you.

Here is my final story. In the mid 1990's Nortel purchased a computer company on the West Coast called Bay Networks and then changed the name of the merged companies to Nortel Networks. The name didn't stick and neither did the Bay Networks CEO, a fellow by the name of David House, but one thing did stick – at least with me. He called it House Rules. It is common sense really but somehow not all that common. Basically it was this:

If A has a problem with B, then A is to deal directly with B, not go indirectly to C (and D and E). A deals with B. B deals with A. Face to face, no email wars, no copies to or blind copies to. End of story. Not bad. We should all do this.

Well, not quite. He also had a process for decision making. Every key decision required by the organization has a designated decision maker. That person makes the decision and often one other more senior person is designated to ratify the decision. Complex issues are often worked on by a team but there still is one decision maker and on rare occasions, two, but never more than that. The other persons on the team are advisors to the decision maker. While the team is in decision making mode, every one on the team has a say, an equal say, and every person on the team must have an opinion that must be expressed or they are not part of the decision making team by definition. No person can lay low during the decision making meetings and then emerge afterwards to criticize the decision. In fact, after the decision is made, and the team emerges, no one outside the team is able to distinguish who on the team argued one way or another while the decision was being made. The team appears unanimous. The decision maker can use whatever decision making process he/she wishes including but not confined to majority vote. It can be as simple as "I've heard all the facts and listened to all the arguments and here is what I have decided." Once the decision is made it is not changed, only ratified or not. If new data arrives that is significant to the decision, the team re-groups and reconsiders. That's it.

And that's it for me. Do any of these business management principles apply to the management of sport?

Thank-you for listening.

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## **Terry Curtis**

Terry Curtis has worked in the telecommunications and computing industries for 40 years.

During his 36 years with Nortel Networks and its former incarnations, Northern Electric, Bell-Northern Research and Northern Telecom, Terry as a Vice President was involved in many aspects of the company's growth. These included Information Technology, optical components development, silicon components development, computer aided design, S/W development and telecommunications systems development.

In 2002, Terry joined Kanatek Technologies Inc. as their Chief Operating Officer where he was responsible for all internal operations of the company and the growing Professional Services and Client Services business units.

Terry currently holds the position of President of EION Inc. managing the strategic alliances. In this role, Terry directs the important and strategic business relationship EION has with Nortel Networks and he provides business advice to the executives on the overall business strategies.

Terry also has a business consultancy firm, Curtis and Associates, which specializes in the installation and operation of project management and performance management systems.

Mr. Curtis holds a Masters of Engineering from the University of Ottawa, is a Professional Engineer, and has served for six years on the Advisory Board for the Computer Science Department of Algonquin College.

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