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September 14th Meeting

BASIC PROJECT MANAGEMENT PRINCIPLES LEAD TO SUCCESSFUL PROJECT EXECUTION

Planning, Managing and Executing the Installation of a Telecommunications Network in Mexico

By Nelson E. Bonilla, CCE, PMP Fluor Daniel, Inc.

Basic Project Management principles highlights the effectiveness of early planning efforts and proactive management and control. The questions are: When does the planning begin? When does it end? What are the elements of planning? How do resources affect the planning effort? How do you measure progress and performance? What is the role of contingency planning? How do you effectively communicate project status?

The presentation will discuss the planning and execution of a large multimillion dollar telecommunications project in Mexico. Some of the project major challenges were:

- Large right-of- way effort from private and governmental agencies.
- Acquisition of thousands of permits from a number of government agencies.
- Engineering, procurement and installation of equipment at over 50 geographically dispersed locations in Mexico.
- Installation of over 5,000-Km of fiberoptic cable throughout rural and urban areas of Mexico.
- Completion of project in record setting 11 months.

The presentation will highlight how the consistent application of basic project management principles to the project assured its successful execution.

Mr. Bonilla has just returned to Southern California from a four year assignment in Mexico for ICA Fluor Daniel. He is currently the functional leader of project controls for the Telecommunications Business Unit of Fluor Global Services. Mr. Bonilla has over 25 years of experience in project controls for hydrocarbon, mining, infrastructure, power and telecommunication projects. He has a B.S. and an M.S. in engineering from U.C.L.A. Mr. Bonilla was President of AACE International , is a Certified Cost Engineer (CCE) and a Project Management Professional (PMP) Mr. Bonilla has given a number of presentations to both PMI and AACE.



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THE PRESIDENT'S COLUMN



BY ANY STANDARD OF MEASURING THE AGE OF A PROFESSION, modern project management (PM) is in its infancy. This year, PMI is celebrating its thirtieth anniversary. When measured in terms of human longevity that's only one and a half generations. In contrast, the well recognized professions—law, accounting, engineering and medicine—are several generations older.

All of these professions started with noble beginnings, driven by, among others, a mixture of human curiosity and the desire

to improve the state of the human condition. In that light, we must ever be vigilant not to stultify new ideas whose intent is to improve our ability to better manage projects. Given this thesis and being in a pensive mood when I wrote this column, permit me to create a brief but hypothetically plausible story.

The field of metallurgy began with blacksmiths, who discovered by trial and error that one can change the properties of iron or copper by heating, quenching, forging and alloying it with other metals. Over centuries of time and concurrent with scientific discoveries in physics and chemistry, these phenomena were scientifically investigated and theories evolved in an attempt to explain such behavior. The natural outcome was that a group of dedicated people decided to codify and organize this information into a body of knowledge. I am sure this hypothetical history of metallurgy parallels that of the origins of those dedicated individuals, who formed PMI and produced the first edition of PMBOK in 1989. Subsequent to that watershed event, we have experienced explosive growth in PM literature and training (textbooks, articles, courseware, etc.) which remains unabated to this day. We are now using the 1996 edition of PMBOK and another edition is in the works. I've found no one who would deny that the '96 version is far better than the '89. This process of amendment is a pervasive virtue for any worthwhile document. Just look at the US Constitution as a good analogy!

As in every growing profession, new hypotheses and techniques are formulated and then applied. Some survive the test of time, because they work. Others are rejected or perhaps temporarily put aside, and still others are modified and reapplied. We have experienced similar dynamics in the PM profession. For instance, the application of a deliverable-oriented WBS seems ever popular and is growing in use in most industries using PM methods. The application of PERT and PERT/Cost in scheduling, as originally developed, has been modified insofar as the use of probabilistic elements are not very much in vogue, but has gained strength in risk management. However, networking tasks using PERT and CPM are the pervasive methodology for schedule planning. Performance measurement using C/SCSC has been modified into a far more useful and friendlier version called EVPMS. As I write this, I am thinking of the Theory of Constraints, the title of book by Eli Goldratt.

Recently, TOC has gained a lot of attention, if not popularity. Unfortunately, it has also conjured up in some circles—what I feel to be—unnecessary controversy. Some of the disciples of TOC have voiced the position that TOC should replace or radically alter much of what is shown in PMBOK.. This kind of reaction is similar to the early advocates of Einstein's Theory of Relativity as to how it would replace Newton's Laws of Motion. Of course it didn't. When the irrational exuberance around Einstein's theory died down, the more sober view was that both theories were mutually compatible. On the other end of the spectrum, there are those who say that TOC is not more than the latest fad.

Without realizing it at the time, I have perhaps intuitively applied some TOC concepts in projects, such as avoiding or minimizing the multitasking of a resource; or recognizing that the "student syndrome"—procrastinating of getting the job done to the last minute—should be considered when dealing with tasks containing slack. Both concepts have worked for me.

Before we proverbially "throw the baby out with the bath water" or treat TOC as if it were the replacement to the Ten Commandments, both views should be tempered. As I stated earlier, we must ever be vigilant not to stultify new ideas, nor should we be afraid to experiment.

THE POSITIVE LEGACY OF THE YEAR 2000 EFFORTS

NORMAN CARTER provided valuable insight into the future of Project Management in his August presentation The Positive Legacy of the Year 2000 Efforts. The presentation was less about the effects of the Year 2000 and more about how Year 2000 projects will prepare organizations for the projects of the future.

Mr. Carter identified a series of positive benefits that may significantly enhance the effectiveness of projects and other group efforts in the years beyond 2000. The complexity and schedule issues of Y2K projects are a wake up call to those who project manage by the seat of their pants. As we plan projects into the new millennium, several important lessons can be learned from Y2K. These lessons are not limited to the IT arena:

 Project durations are getting shorter. Future projects will have durations measured in months instead of years.

- Missing a deadline or "finishing second" often proves disastrous.
- Y2K Projects, with their built-in, immovable date and complexity are good practice for organizations that wish to succeed on future initiatives because:
- Failure for contingency planning is a recipe for disaster.
 The potential risks from this lack of foresight, if
 realized, may be what it takes for cultures to change
 and for some organizations to take contingency
 planning seriously.

Project organizations benefit from Y2K because they have hard-earned experience in managing risky technical endeavors that must be completed "on time or else." This experience, if properly documented and learned is an opportunity for success for that next "impossible" project.

Keith Reynolds

"Providing the knowledge, tools, training, and implementation necessary to help companies manage projects more effectively"



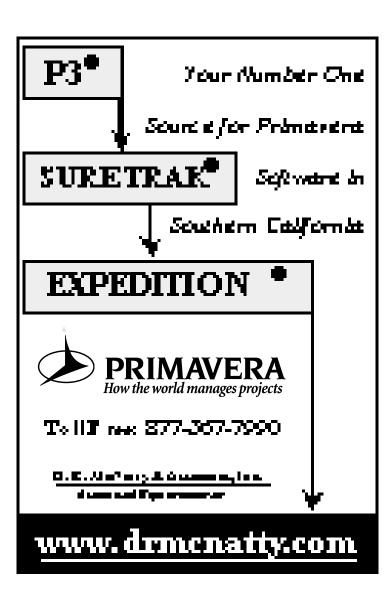
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WHAT IS PMI?

THE PROJECT MANAGEMENT INSTITUTE

is a non-profit professional organization dedicated to advancing the state-of-the-art in project management. Anyone involved or interested in project management, regardless of industry or discipline, is encouraged to attend the monthly meeting to find out more about PMI and the Orange County Chapter.

TRY YOUR KNOWLEDGE ON PMP EXAM QUESTIONS

(Answers are on page 7)

Here is a sample of some questions:

Here is a sample of some questions:

- 1. The document that describes the objectives, work content, deliverables and end-product of the project is the:
 - a. Project charter
 - b. Product description
 - c. Decomposition document
 - d. Scope statement
 - e. WBS
- 2. Given the following information, BCWS = \$2,200; BCWP = \$2,000; ACWP = \$2,500; BAC = \$10,000, the SV of the project is:
 - a. +\$300, and the project is behind schedule
 - b. -\$300, and the project is ahead of schedule
 - c. +\$8,000, and the project is on schedule
 - d. +\$200, and the project is ahead of schedule
 - e. -\$200, and the project is behind schedule
- 3. Projects are particularly susceptible to risk because:
 - a. Murphy's law states that "if something can go wrong, it will"
 - b. Each project is unique in some measure
 - c. Matrix management has not yet gained wide acceptance
 - d. Project management tools are generally not available at the project team level
 - e. There are never enough resources to do the job
- 4. Several types of float are found in project networks. Float that is used by a particular activity and does not affect the float in later activities is called:
 - a. Extra float
 - b. Free float
 - c. Total float
 - d. Expected float
 - e. Slacked float



THE MACHINE THAT CHANGED THE WORLD

by James P. Womack, Daniel T. Jones, and Daniel Roos
Published by Harper Perennial, 1990, 323 pages

A STUDENT in one of my UCI classes recommended a book to me which he found most interesting. I bought the book and like him, found it to be most enlightening. It is about the automobile industry, how it evolved from the early "craftsman" period, into "mass production," and most recently into what is called "lean production." We should become familiar with this term.

The hero of the book is Toyota of Japan, and the villain is General Motors of the United States. Lean production is not an Asian versus Western manufacturing difference. In Asia located only about a hundred miles apart are the extreme examples of both lean manufacturing (in Japan), and mass production (in China). The Japanese with only 500,000 workers produced 13,000,000 cars in 1989, and the Chinese with 1,600,000 workers produced 600,000 cars in 1990. This represents a productivity gap of 70 to 1. And which nation produces the highest quality automobile?

What makes lean production different from mass production? Lean production holds every person on the line responsible for quality. Anyone can stop the line flow to fix defects at their source. Mass production will typically continue the line, with the defects and all, and fix the bad cars at the end of the line. Lean production takes less hours, less space, and less rework of bad parts, etc.

Perhaps the best example of lean versus mass production is in the developmental projects used to produce new models. In lean production suppliers have an active say in a new model, suppliers are considered part of the manufacturing team, with commitments for the long-term. Ideas for improvements are encouraged, and incentives offered for suggested improvements. Lean production has less suppliers, but each playing a major role. Being assigned to a new product development project enhances one's long term career in lean production. By contrast mass production encompasses the very exact opposite of these characteristics.

It was easy for me to identify with the central theme of this book. As a young boy I spent a delightful, hot, sticky summer working in an automobile factory while going to high school in Detroit. At age 16, with a false birth certificate in hand and a promise that I was dropping out of high school, I got a summer job in a local Chevrolet automobile plant. Like all mass production environments, complex tasks were divided into simple tasks, where one could be taught a new job in only a few minutes.

Mine was a high pressure job. I was a "nut starter" on an axle assembly line. I would take a handful of nuts in each hand and start the nuts as car axles flowed by me. A lot depended on me getting the nuts started correctly because immediately behind me were other workers with automatic nut tightening machines.

But this was also a dirty job, with lots of grease on the nuts and the car axles. It wasn't that I was necessarily a dirty person. But at the end of the shift I was full of grease from head to foot. My problem was the "rag-man" who came around each hour to hand out rags. He kept giving me dirty rags, soiled rags that other people had used before me. By the end of the shift I was full of grease. I needed a clean rag. As I rode the street car home each night at midnight no one would sit next to me, and I couldn't blame them.

Then one day to my surprise the rag-man gave me a clean rag! The clean rags kept coming for three straight days. Life was good for me. Then the rag-man took me aside and asked me to join the union. I said "no thanks" and the dirty rags started again . . .and nobody would sit next to me on the street car going home at midnight.

Back to the book. "The Machine that Changed the World" gives us insight into business process changes, the importance of shifting to accommodate a new approach. At the time this book was written, General Motors had not moved away from mass production, but rather was relying on its corporate size and "trade restrictions" to overcome the competition from lean production.

Congress did accommodate these cries for trade barriers, and restricted the number of imported cars allowed in each year. But the lean producers merely increased the price of their high quality products and the consumers were willing to pay extra for high quality. We the consumers simply paid more . . . to get high quality. Interestingly, and in a positive move, the Ford Motor Company has changed nicely over to becoming a lean production producer.

This book is worth reading. Soft-cover copies are available from Amazon.com for about \$11.20 per copy.

Book Review by **Quentin Fleming**, Web-site: HTTP://www.QuentinF.com

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MONTHLY DINNER MEETING

TUESDAY, SEPTEMBER 14, 1999

Program: BASIC PROJECT MANAGEMENT PRINCIPLES

LEAD TO SUCCESSFUL PROJECT EXECUTION

Presenter: Nelson E. Bonilla, CCE, PMP, Fluor Daniel, Inc.

Location: Holiday Inn

2726 Grand Avenue,

Santa Ana

Next to the 55 Freeway next to the Dyer Road Exit.

(The Dyer Road exit from the northbound 55

is closed until further notice.)

Time: 5:30 - 6:20 Sign-In and Networking

6:20 - 7:30 Announcements, Dinner

7:30 - 8:50 Speaker

8:50 - 9:00 Closing and Adjournment

Cost: In Advance Members \$25.00

Non-Members \$27.50

At the Door \$30.00

Please register online at http://www.pmi-oc.org

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COMPUTER-BASED TRAINING FOR PROJECT MANAGEMENT

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Answers to PMP Exam Questions

1. a. Project charter

This document signifies official sanction by top management and starts the planning or development phase. The project charter formally recognizes the existence of the project and provides the PM with the authority to apply organizational resources to project activities.

2. e. -\$200, and the project is behind schedule

SV is calculated as BCWP - BCWS (or \$2,000 - \$2,200). A negative variance means that the work completed is less than what was planned for at this point in the project.

3. b. Each project is unique in some measure

Uniqueness means that the past is an imperfect guide to the future.

4. b. Free float

Free float is defined as the amount of time an activity can be delayed without delaying the early start of any immediately following activities.

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PMI Orange County MILESTONES

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Editor: Edward J. (Ed) Fern Printing: Sir Speedy Printing

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COMING EVENTS

SEPTEMBER 14

EFFECTIVE PROJECT PLANNING Nelson Bonilla, (Fluor Daniel)

OCTOBER 19

RAPID PRODUCT DEVELOPMENT Ron Mascitelli

NOVEMBER 9

CAPABILITY MATURITY MODEL 2.0 (tentative) Rick Hefner

DECEMBER 14

HOLIDAY NETWORKING (tentative)

JANUARY 11

DECISION ANALYSIS, RISK MANAGEMENT Ray Stratton

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