

The Spectrum of Project Management Future Aspects: North American Trends

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Mr. Chairman, Honored Guests, Ladies and Gentlemen

May I first say to our hosts and colleagues of NORDNET how much I appreciate your invitation to come and speak to you here in Reykjavik today. This opportunity also makes it possible for my wife and I to catch a glimpse of your beautiful country for the first time.

To those of you who have come from further afield, I welcome the opportunity to discuss and exchange with you ideas on project management on a world wide basis. In particular, I am looking forward to the workshop tomorrow afternoon when we intend to discuss *Business Development through Project Management*.

The Project Management Institute

At this time, I should like to tell you a little bit about the Project Management Institute (or PMI as we call it), how we see project management, where we have been, where we are today and where we see ourselves going.

The PMI is based in Philadelphia, Pennsylvania, U.S. It was launched in 1969 and since then has grown to an individual membership of about 5500. About 70% of the members come from the U.S., 20% from Canada and the remaining 10% from other countries worldwide. 70% of our members belong to the 41 chapters, who are very active on a local or regional basis. Our annual fee is \$60 U.S.

Now I think that you will agree that project management is a skill that can and should be practiced in a wide variety of industries, occupations and situations. It is used to create all types of permanent facilities such as buildings, utilities, power and industrial plants, transport and communications systems and so on. It is also used in ship-building and aerospace, to conduct research and develop new products, to launch new businesses, to produce entertainment products, and to conduct political campaigns, to mention only a few examples.

In short, project management is applicable wherever there is a necessity to effectively manage resources in creating change. Clearly, there are many areas of application which involve a diversity of skills and talents in the use of project management philosophy and methods. PMI endeavors to draw on this knowledge and experience, not only for the benefit of its members, but also all those who are served by the projects that its members undertake. It should be appreciated that project management serves a very large constituency.

In its constitution, the PMI has a number of goals and objectives typical of most technical associations, but which are reflected in its mission statement, recently adopted.

"PMI's mission is:

- To be the leading recognized professional and technical association in advancing the state of the art of program and project management.
- To be achieved through the development and dissemination of the theory and practice of effective management of resources in reaching project goals."

Since the late 1970's, there has been increasing emphasis on a "professional" organization and a significant effort by members of the Project Management Institute to develop project management into the newest of recognized professions. This presumes that there is indeed a basis for a profession. So the Institute established a series of projects, first to identify the major attributes that are common to all professions, and then to set about creating these attributes.

Thanks to the prodigious efforts of such leaders in PMI as Matt Parry, past president, Dr John Adams, past PMI Director of Education and now chairman of the PMI Standards Board, and Dr Dean Martin, PMI Director of Certification, and many, many others on all their various committees but too numerous to mention, significant strides have been made in this direction.

The Attributes of a Profession

There are five attributes that are generally associated with all recognized professions, whether they be accounting, engineering, law, medicine and so forth. These are:

- 1) A Unique Body of Knowledge
- 2) Standards of Entry
- 3) A Code of Ethics
- 4) A Service Orientation to the Profession, and
- 5) A Sanctioning Organization

I am indebted to my good friend and PMI colleague, Dr. John Adams, for the following elaboration of these attributes. It is taken from the text of a presentation which he made to the 1987 National Conference of the Project Management Forum, in Adelaide, South Australia, last March.

A Unique Body of Knowledge

This first attribute implies the existence of principles and concepts that are unique to the profession and are codified and documented so that they can be studied and learned through formal education. In most professions, the body of knowledge is taught in graduate or professional schools; for example, the specialized body of knowledge for the legal profession is taught in law schools. A degree does not necessarily qualify an individual to practice in the profession, but it does provide a means of assuring that the individual has at least been exposed to the basic principles on which the profession is based. Every profession has at least one degree that can be earned by those wishing a knowledge of the profession's principles. Many professions have several different degrees, allowing for specialized fields within the profession.

Standards of Entry

Defined minimum standards for entry into the profession imply progression in a career; entry standards define the place from which a career path begins. All professions must have an accepted route open to the public by which a person can become a recognized member of the profession. Law, engineering, accounting, medicine, teaching, all have entry standards. These standards typically involve formal education leading to an academic degree; several years of experience, as in an apprenticeship program or as a beginner in the profession; test score requirements, which may or may not be legally enforceable; or some combination of the three.

Code of Ethics

Ethical standards, or a code of ethics, are common to most professions. Their purpose is to make explicit what is considered to be appropriate behavior and to provide a basis for self-policing unethical behavior, thus avoiding or limiting the necessity for legal controls on the profession.

Service Orientation to the Profession

The Service orientation actually reflects an attitude of the members of the profession, an attitude by which members are committed to bettering the profession itself. Professionals will commit their time, money, and energy to attending conventions, publishing their ideas and experiences, and generally contributing to the body of knowledge and the administration of the profession. A professional's commitment to the profession is frequently stronger than to the employer. In many cases professionals will leave their employing organization rather than violate the profession's standards of ethics or practice.

A Sanctioning Organization

The authenticating body or sanctioning organization has many purpose. It sets standards and acts as a self-policing agency. It promotes publications and the exchange of ideas, encourages research, develops and administers certification programs, and sponsors and accredits education programs. Through public information and recognition of professionals, such organizations provide a voice for their profession. In a word, the purpose of the authenticating body is to administer the profession.

Developing a structure to support a project management profession has proven to be a major undertaking requiring the long term commitment of the Project Management Institute and a large number of its senior members. The task is not one that can be accomplished in a single planned effort and then be terminated as in completing a project. Rather it is an ongoing set of interlocking programs, each of which must be continually revised, adjusted and updated as the field of project management evolves in the face of changing technologies and environmental opportunities. The field is extremely dynamic. Programs designed to aid and guide its development must be continuing and dynamic in themselves or be quickly outmoded and left behind. Time does not permit me to elaborate on all of these, but PMI has established ground work in each of these five areas.

The Project Management Body of Knowledge

Clearly, the identification of a Unique Body of Knowledge provides the foundation for the remainder. Some would say that all we have done is to borrow heavily from what I would describe as corporate or

traditional management. To some extent, that may be true but the big difference is the environment in which the project takes place.

This environment includes the whole business of establishing temporary organizations; identifying discrete goals and objectives; obtaining commitment to those goals, often short term and in conflict with other personal goals and objectives; allowance for "learning curves"; and then when the goals have been met, the problems of disbanding in an orderly fashion with benefits rather than damage to those involved. As all those of you in the project business well know, successful project management is heavily "people" oriented.

Terms and definitions are clearly an essential prerequisite to the development of a Body of Knowledge. After all, if we do not know what we mean, how can we communicate effectively, let alone codify and learn?

For example, the Project Management Body of Knowledge, or "PMBok" as we call it, itself is defined as "All those topics, subject areas and intellectual processes which are involved in the application of sound management principles to the collective execution of any types of effort which qualify as projects."

So we have spent a long time trying to reach some sort of agreement on terminology, particularly in a generic sense. That is, terminology that should serve all areas of project application. It has not been easy.

In fact, the PMI has just published the results of this work as an insert to the latest issue of the Project Management Journal, including a "Glossary of Project Management Terminology."

Now is this sort of thing really necessary? Isn't it all rather academic? I mean, everyone knows what project management is, at the very least, those who are in the business do, don't they? Unfortunately, far from it. I have come across some projects that are being managed like there is no tomorrow, and I am sure you have too. On the other hand, I have met people who have no idea that they have a project to manage, let alone how to manage it!

Again, there are those who try to impose project management techniques on traditional management on a fiscal basis. It is called Management by Objectives.

What is Project Management?

In PMI's view, the definition of project management is:

"The art of directing and coordinating human and material resources throughout the life of a project by using modern management techniques to achieve predetermined objectives of scope, cost, time, quality and participant satisfaction."

Here, I should like to draw attention to the word "satisfaction". We believe that this is a key ingredient of successful projects. That is to say, a successful project is one in which everyone feels equally good

about it - or, in a political environment, about equally disappointed (according to your point of view!). Even more basic to the term project management is the word "project" itself. Again there is a diversity of views.

I suppose that some of the earliest great projects known to man are the pyramids in Egypt, built three to four thousand years ago. The objective was longevity, in which they succeeded handsomely. But they were built with seemingly almost unlimited resources, labor and time.

Another good example of more recent building is the Taj Mahal near Delhi in India, which I had the opportunity to see for the first time earlier this year. Here the objective was to create something of great beauty, and here again the sponsors, designers and artisans succeeded magnificently. However, in terms of time and cost, I understand it was something of a disaster.

While I was in Calcutta, India's Prime Minister, Mr. Rajiv Gandhi, made a most interesting statement. He was addressing the Consultative Committee of Scientific Departments responsible for monitoring progress on four technological missions - drinking water; communications; edible oils; and vaccination and immunization.

He is reported as saying that

"Strategies must be evolved to achieve results within a pre-decided time-frame, resources should be identified and management methods so adopted that redtapism did not block progress."

He went on to say

"For achieving the missions' objectives, it is imperative that specific time-bound tasks are spelled out clearly and allotted to specific institutions for implementing them within that time frame."

In my view, he was clearly stating the need for project management.

My background is in civil engineering, so it is easy for me to focus on construction. Yet, since I was born six decades ago, the world has changed quite a bit. It has introduced antibiotics, ball point pens, credit cards and computers; DDT, drip-dry clothing, disco dancing and disposable diapers (baby nappies to you and me!); electric freezers, electric blankets, electric typewriters and electric music; fast foods, frozen foods, FM radio and Frisbees; pizza, plastics, penicillin, polio shots and the pill; television, tape recorders, radar and word processors; nylon, pantyhose, and vitamin pills...the list is seemingly endless.

The point is that each and every one of these, to say nothing of all the attempts and failures, represents one or more projects! So there must be a "generic" definition of the word project and it seems to be any assignment which will end when a goal is reached. Therefore, again in PMI's view:

"A project is any undertaking with a defined starting point and defined objectives by which completion is identified. In practice most projects depend on finite or limited resources by which the objectives are to be accomplished."

Hence the need for project management!

Note that there is no limitation to a particular field such as construction. Nor is there any reference to

size. In fact the word "project" has come to be a household word in the English language.

It is a simple concept that leads to a dramatically different approach. It is the difference between "maintaining the on-going" and "creating something new". It is like the difference between being "in love" - and "making love"!

How Large Is Our Market?

You may say that we are getting rather detailed, but these details are important to organizations such as ours, because it means that there are a lot of people out there who are involved in projects. I am sure that a lot of them would like to know how to do it better, and conserve their limited resources.

For example, I have estimated that about one percent of the North American population is actually employed on project work of one kind or another. Suppose that only ten percent of these would be interested in improvement. Then this would still amount to 250,000 people. The world population I think is about 5 billion, so between us we have a potential market of at least 5 million!

You may ask me where we are going. Well that is where we *should* be going. There is obviously fertile ground out there for a very aggressive marketing and recruiting campaign - if we can only figure out how. Perhaps the answer lies in the last line of our mission statement: "effective management of resources in reaching project goals". Embedded in that phrase, I think, is an opportunity to benefit mankind worldwide.

Body of Knowledge Structure

But I have digressed. Let me return to the Body of Knowledge. As a result of a recently completed PMI project, which involved over 80 volunteer members across North America over a two year period, we believe that within project management there is a logical five step hierarchy or breakdown of the knowledge which reads from top to bottom as follows:

Function; Process; Activities; Tasks; Tools and Techniques.

At the first level, we have identified eight major project management functions, plus an overview or framework to tie it all together. These nine areas of concentration or learning, consist of the four now traditional core subjects of Scope, Quality, Time and Cost Management, plus the supporting areas of Risk, Human Resources, Contract-Procurement, Communications and Project Management Framework. In my view, if you are not paying attention to all of these, then you are not getting the best out of your project!

For each of these nine areas, we have developed a breakdown structure as I mentioned earlier, which identifies their content. This then will form the new basis for our professionalism programs of Certification, Education and Accreditation.

PMI Professionalism Programs

Project Management Professional (PMP) Certification

Certification, including a Code of Ethics, involves the testing of individuals to published minimum standards. The results of a recent survey based on a sample of PMI members indicates that 96% of respondents are in favor of a PMI Certification program.

The program as currently structured is basic and fundamental in nature. It is based on extensive research concerning what other professional organizations have done, what is best for project management professionalism as expressed by PMI members, and the objectives of developing an expandable, quality program which will possess credibility in the eyes of the many publics with whom PMI interacts.

The basic purposes of the certification program are to enhance professionalism in project management and to provide project management personnel with a structured method to aid in their personal professional development. It is a program which PMI offers to both members and non-members alike. The program is designed for individuals working in a project environment, and who wish to enhance their knowledge, skills and visibility as project management professionals. You do not have to be a PMI member to apply for certification and it is not anticipated that all members of PMI will apply.

Project Management Code of Ethics

To be recognized by the Institute as a certified Professional Project Manager, the individual must subscribe and adhere to a project management code of ethics. It serves as a guide for the project manager's conduct on moral issues and judgments as they relate to the profession. As I hope I have already demonstrated, project managers have the potential to affect the quality of life of all people in our society. Therefore, it is vital that they conduct their work in an ethical manner and earn the confidence and respect not only of their team members, colleagues, employers and clients, but also the public-at-large.

A Master of Project Management Degree

Normally, education in PMI terms is by means of seminars, symposia, workshops, and through the PMI's professional journal. However, some five years ago, as PMI's professionalism efforts were coming together, a unique body of knowledge was being developed, accepted, and formalized in the publications of the Institute, and support for developing a project management profession was high, it became feasible to entertain the idea of a Project Management Master's Degree Program.

In 1982, a PMI project was conducted to study all U.S. nationally accredited schools of engineering and business to determine what project management materials were being taught in quality U.S. institutions of higher learning. The findings were most interesting, although not entirely surprising. They were:

- No nationally accredited project management degree program was being offered by any responding school
- Few schools responded that they offered specialized courses in project management
- No nationally accredited school of engineering or business reported requiring a project management course as part of a degree program
- Engineering schools that did have one or more project management courses taught them to cover

technical, quantitatively oriented networking materials

- Business schools that did have one or more project management courses based them in the area of organization theory, presenting mainly the unique issues involved in managing project and matrix organizations
- Thus there appeared to be no comprehensive, high quality project management program available in the U.S. at that time

After a considerable amount of discussion and legwork, a project management degree program was approved for implementation at the University of North Carolina, and classes commenced in August 1986. The PMI Board of Advisors continue to visit WCU at their own expense, to advise and approve of the curriculum as it is developed and to act as Visiting Executives in the new degree program.

Accreditation

As a result of the publicity generated by PMI's efforts to establish the WCU degree program, other schools have indicated an interest in developing degree programs of their own. While some have chosen to "go it alone" and develop their programs independently, others have contacted PMI for assistance. As a consequence, PMI has established a standing PMI Accreditation Committee to deal with the issues of evaluating degree programs and recognizing those that meet defined standards of quality.

The PMBoK provides the necessary evaluation standards for the curriculum. While true accreditation requires the evaluation of many other variables such as faculty qualifications and their facilities, these are beyond the capability of PMI. However, other agencies exist in the United States which are well versed in this area. Therefore for our purposes, Accreditation is a process whereby a PMI committee, upon request, reviews a learning institution's project management program for quality and content and confers recognition if found acceptable.

PMI's accreditation program is in its infancy. The first meeting with a requesting University, a Canadian University, was held earlier this year with a view to establishing standards and procedures for reviewing their project management program. This is a new endeavor for PMI and we are approaching it with a great deal of caution. It does, however, reinforce the PMI commitment to develop project management as a profession.

For those of you who would like to know more, as I mentioned earlier, an excellent paper was delivered to the 1987 National Conference of the Project Management Forum, in Adelaide, South Australia, last March. I am sure that it, together with other valuable information is available through our office in Drexel Hill in Pennsylvania.

The Future

So what does the future hold?

I believe that those of us in the business have to work a lot harder to get our concepts and ideas across, to achieve realization that project management really is different from traditional general management, to get across in the simplest of terms, how anybody faced with a project really can do it better.

On larger projects, particularly natural resource projects which are significant to more people, we must get across the idea that conservation and more effective use of human and material resources means more projects and so eventually better conditions for the world's populations. Indeed, you may have noticed a tendency for politicians and governments around the world to squander our resources - especially that of money, more for power and political ends than for the best interests of the people that they serve.

I am not suggesting that project management should displace the political process. Far from it. What I am suggesting is that we have a job to do to get across to them the idea that there really is a way to improve at the level of the individual, and that this will serve both their own interests and that of their constituents. It could begin with the management of political campaigns!

That is why conferences such as this are so important. They provide the forum for exchanging ideas and experience, for recharging ones batteries so to speak, for seeking new directions and setting new goals.

After all, as I indicated earlier, the market is big enough for those who are aggressive enough to tackle it.

Mr. Chairman, ladies and gentlemen, thank you again for this opportunity to bring you the trends in our latest thinking.

Max Wideman
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