

Global Tides of Change:

Significant Recent Events and Trends Affecting Globalization of the Project Management Profession

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ABSTRACT

During the past year, several significant economic, industrial and geopolitical events occurred in the world which might have lasting effects on the project management profession. Advances continued in computing and communications technologies, with Internet and worldwide web-based commercial activity growing rapidly. Within the project management profession, global cooperation increased, while PMI's relations with government agencies expanded, along with the number of international members and chapters. This paper discusses several significant trends and events around the world, their possible impact on the project management profession, and a new model for including more stakeholders and issues in the globalization of the project management profession. The paper also includes a brief summary update on the global status of the project management profession.

INTRODUCTION

During the past year, several significant events have occurred in various parts of the world, several with long term implications, which might have lasting effects on the project management profession. Those events have included the crashing of economies and financial markets in Asia and Russia, nuclear weapons testing and confrontation by India and Pakistan, mega-mergers among industrial and financial organizations in North America and elsewhere, terrorist attacks, regional wars, and other economic and geopolitical events worldwide. Technological advances continued in computing and communications industries, with Internet and worldwide web business activity growing rapidly.

Within the project management profession, global cooperation related to research and standards increased, with Australians and Europeans leading the way. The Project Management Institute (PMI), the world's largest project management association, has seen continued international growth and expansion, as the number of PMI members and chapters outside of North America grew dramatically. Within the United States, PMI's relations with US government agencies continued to expand, with project management forums in Washington, DC and a partnering agreement under discussion with the US Department of Defense.

In recent years, globalization of the project management profession has been discussed and promoted by leaders of various professional project management associations worldwide, including PMI, the Association of Project Management (APM) in the United Kingdom, the Australian Institute of Project Management (AIPM), Engineering Advancement Association of Japan (ENAA), the International Project Management Association (IPMA), the Russian Project Management Association (SOVNET), and others. As a result, cooperative initiatives have been launched among and between professional associations related to project management research,

standards and certifications. Global project management forums have been held in Australia, Europe and the United States, along with regional forums and conferences in many locations, where professional leaders have met and continued these discussions and initiatives. In a majority of cases, however, these efforts have been related to more and closer cooperation only within the professional community.

While such professional cooperation is critical to advancing the profession around the world, a broader model is needed to understand and include the relationship of the project management profession to economic, industrial, political, social, cultural and technological issues and conditions. The relationship of the project management profession to academic, governmental and industrial organizations should be better understood. The effect on the profession of significant trends and events around the world should be considered and addressed, in terms of short term impacts and longer range strategic issues. This paper examines several recent events and trends that have affected or might have an impact on the project management profession on a global basis.

Before launching into this attempt at broadening our model, however, let me say that this is a difficult and daunting task. How can we relate project management to everything else happening in our world? However, just as each of us personally can now often see the possible repercussions in our own lives of many events and situations elsewhere in the world, the project management profession is also often directly effected. Since this paper addresses the globalization of the project management profession, I hope it becomes more apparent how significant that impact often is. This paper is not intended to answer all the questions. Rather it is to raise questions, suggest new models for discussion, and point to the need for research on these topics.

GLOBALIZATION OF THE PROFESSION: THE WORLD ACCORDING TO PM

One major concern with current globalization efforts among project management societies is that they have tended to only include other project management associations and leaders. While these discussions and initiatives are critically important, we should remember that the project management profession is still relatively young, most project management associations have relatively few members, and a majority of the world's practicing project managers and project-oriented organizations are not yet participants. While our membership continues to grow rapidly, with the number of industrial organizations represented continuing to increase, in most countries only a small fraction of local project management stakeholders are represented. Few project management associations have the participation of government organizations, the largest local corporations, or other leading social institutions. I believe this to be true in the United States, Europe and elsewhere. On the global level, we have not yet included the World Bank, United Nations, or any other global institutions (other than representatives of several global corporations) in our meetings or discussions. Until this occurs, I do not believe we can achieve the true globalization or impact that many of us hope for.

GLOBAL ECONOMIC STRESSES

The Asian Flu or Economic Dominoes

Beginning with Thailand, then spreading to Malaysia, South Korea, Indonesia and other countries in the region, economies, currencies and financial markets crashed during the last half of 1997 and first half of 1998. By mid-January, 1998, the Jakarta Stock Exchange had fallen 87 percent in US

dollar terms in less than six months. The Indonesian Rupiah was down 70% against the US dollar. Economic conditions in other Asian countries were in similar shape, with the Kuala Lumpur Composite Index down 75%, the South Korean composite down 79%, the Bangkok SET down 69%, the Manila composite down 67%, and so on. Currencies throughout Southeast Asia were decimated, economies brought to a near standstill, and local bankruptcies skyrocketed. (Pells 5/98)

By early 1998, the financial contagion had spread to Japan, where structural problems in the banking sector have now led to Japan's worst economic crisis since World War II. Real estate values collapsed, with the resulting "loss of over \$8 trillion in value representing the largest collapse of wealth in the history of the world". (Zuckerman 7/98) "The loan exposure of the major Japanese banks is approximately 150% of their capital and resources. The threat to bank capital in Japan has virtually halted bank lending. The close links among firms, banks and government officials have compounded the nation's troubles." "Economic uncertainties from Asia have now destabilized U.S. stock markets and slowed our growth. Estimates of corporate profits and investment have been cut." (Zuckerman 8/98)

While many other nations around the world had felt the influence of this "Asian flu", it was made all the more dramatic in September, when the Russian currency and economy collapsed following devaluation of the Ruble and reorganization of the federal government. The Ruble fell to less than 10% of its previous dollar value over the course of a week, leading to the virtual bankruptcy of many Russian banks and tremendous losses by foreign investors. Downturns in financial markets and currencies in Eastern Europe followed, with currencies and markets in Latin America also under pressure. The global economic crisis has continued to spread, making headlines worldwide for months. How have these events and conditions effected projects and the project management profession?

Wall Street vs. George Soros

While economies in Asia and elsewhere crashed, the U.S. economy continued to boom. In July, the Dow Jones average reached an all time high. At the end of August and during September, however, Wall Street plummeted, as investors began to feel the effects of the global financial crisis. On October 1, the International Monetary Fund (IMF) slashed its forecast for the world's economic growth during 1998 and 1999, and warned of possible global recession during the coming months. According to the IMF, the global economic situation now hinges on the US economy, the world's largest. (Crutsinger 10-1-98)

In Asia, several governments have accused global financial speculators of causing the collapse in currency and equity markets. One widespread rumor was that "a single hedge fund had a short-term position in the Thai currency last year equivalent to 20 percent of the country's official reserves." (Plender 9/98) When the Russian ruble collapsed in September, George Soros, a well-respected New York billionaire investor, was rumored to have lost over two billion dollars in Russia alone. Many other American and European investors and financial institutions lost hundreds of millions of dollars in Russia and other developing economies, as their loans and investments denominated in local currencies lost most of their value or were written off completely.

Then during the third week in September, 1998, it was announced that Long Term Capital Management (LTCM), one of the largest hedge funds in the United States, was on the verge of collapse. On September 27, 1998, LTCM had capital of \$600 million, but global market losses of over \$4.5 billion. The result was an unprecedented \$3.5 billion rescue package by a dozen New York banks and investment houses, under the supervision of the Federal Reserve Bank of New York. Suddenly, there has been a recognition that "a growing proportion of global capital is leveraged, most notably in the case of the hedge funds. Estimates of global hedge fund resources range up to \$400 billion; and many of these 4,000-5,000 unregulated offshore funds specialize in emerging markets." "For perspective, that \$400 billion is ... more than double the combined equity market capitalization of Thailand, South Korea and Indonesia at the start of the Asian crisis last July." "It is not uncommon for hedge funds to borrow five or six times their investor's funds in pursuit of high returns." "If the hedge funds and banks misjudge the risks in their speculative dealing, which is all too plausible, there could be a potential systemic threat arising from contagion within the banking system itself." "... banking itself is a highly leveraged business." (Plender 9/98)

What began as a local economic crisis has spread to economies worldwide, with a growing recognition that underlying structural and systemic problems may exist in both local economies and global financial markets. The global economy, heralded not so long ago as the path to global economic growth and prosperity, is now under tremendous pressure and may be on the verge of collapse.

Who will Pay for Your Next Project?

So how does the global financial crisis effect the project management profession? There are many repercussions, including the following:

- In the hardest hit economies in Asia, Russia and other countries, most local lending has stopped. Many banks are insolvent. Many companies have folded, or are near bankruptcy. Most locally-funded projects have stopped. Many project managers and professionals are either out of work or underpaid, making professional activities more expensive and less attractive to companies.
- Local economic conditions are forcing governments to make changes, to correct structural problems, save local banks and corporations, and to raise capital. Privatization of some industries has increased. Banks have been forced to merge or restructure. Large corporations have had to sell off divisions and assets, often to foreign buyers. These processes have dramatically changed many local project environments.
- At the same time, conditions in some countries have offered opportunities for foreign corporations and investors to purchase companies or other assets, enter previously closed markets, or enter into major industrial relations with local corporations who need foreign partners. This has been especially true in South Korea and Japan. Opportunities for project management professionals associated with large corporations that are "taking advantage of the situation" would appear to be growing.
- For individual projects and companies, financing of projects in most developing countries should now be more difficult, as banks and investors focus on the risks made apparent by recent financial conditions.

- At the same time, project sponsors and owners will be more selective of their banking relationships, as more banks come under scrutiny. In some countries, local banks are either insolvent or near bankruptcy, leading even local companies to turn to foreign banks for project finance. The overall global capital markets have become both more suspect and more concentrated, as London, New York, Zurich and other financial capitals appear more stable. How does this affect your projects? Who will finance your next project?
- Finally, at the other end of the spectrum in hard hit economies, some organizations and professionals (especially in government agencies and related to government-sponsored projects) will recognize the need to improve their project management skills and capabilities in order to compete or participate with foreign corporations on projects. In some cases, there may be an increase in demand for project management education, training and professional activities. That demand, however, will be accompanied by the need for such education and support to be offered at prices affordable to local participants, and offered in local currencies.

GLOBAL MERGERS AND ACQUISITIONS

The Big Get Bigger

One of the most significant series of events and trends involves the mergers of large industrial and financial organizations, many resulting in the formation of huge new companies with global operations and leverage. Examples include the following:

- Daimler Benz's acquisition of Chrysler Corporation
- Merger of Citycorps with Travelers Group
- Merger of BankAmerica with NationsBank
- Combining of the international businesses of AT&T and British Telecom
- Merger of GTE and Bell Atlantic
- Proposed merger of Chang Hwa Commercial Bank, First Commercial Bank and Hua Nan Commercial Bank in Taiwan
- Halliburton Co. merger with Dresser Industries in Texas

While many large mergers have involved American and European organizations, the trend is now spreading to Asia, Latin America and other parts of the world. While larger banks and industrial organizations offer economies of scale, they also offer more perceived protection against financial, economic and other business risks.

Monster Banks Change the Financial Landscape

During 1997 and 1998, a series of major mergers among American and European banks was announced. In the United States, Chemical Bank merged with Chase Manhattan, to form Chase Bank. In April of 1998, San Francisco based Bank of America announced a \$65 billion merger with Nations Bank. The combined BankAmerica will have branches in 22 US states and 38

countries. In September, the US Federal Reserve approved the merger of Citycorps, already one of America's largest banks, with the Travelers Group, one of America's largest insurance companies. The new financial services giant, to be called Citigroup, will be the largest bank in the United States, and will offer its customers banking services, credit cards, insurance, and investment services. Major regional banks in the USA are disappearing, as they are acquired or merged with larger institutions. (For example, SeaFirst Bank in Seattle into Bank of America, Texas Commerce Bank into Chemical Bank and then Chase, etc.)

In Canada the chairman of the Bank of Montreal announced in January a proposed merger with Royal Bank of Canada, the country's largest bank. Canada's second and fifth largest banks, Canadian Imperial Bank of Commerce and Toronto Dominion, then also announced plans to merge (Economist 9-19-98). Bank mergers have also been common in Europe, for a variety of more market-related reasons. Last year's merger of two of the largest Swiss banks, Union Bank of Switzerland and Swiss Banc Corporation, was partially based on bad loans and necessity.

In Asia, the same thing is now occurring. Governments in Bangkok, Seoul, Kuala Lumpur and Jakarta have begun to restructure their banking sectors, forcing insolvent banks to fold or merge into healthier institutions. Just recently, the three largest commercial banks in Taiwan have announced plans to merge to create a "new bank with combined assets of \$91.5 billion, putting it among the world's 90 largest banks. That new bank would rank 22nd in size in Asia, making it a big regional, perhaps international player". (Financial Times 9-21-98) Should project managers and project management associations care about events in the banking sector?

Global Telecoms May Control the Airwaves

Just over a decade ago, AT&T Corporation was broken up by federal regulators and the courts in the United States, resulting in a handful of regional "Baby Bells" around the country. In today's environment of deregulation, market liberalization, privatization and merging technologies, just the opposite is happening. These forces plus competitive pressures are leading regional and national telecoms around the world to join forces, creating global players in this rapidly changing industry. In the USA, SBC Communications, which already owns both Pacific Bell and Southwest Bell, announced a merger with Ameritech in a \$62 billion deal. Bell Atlantic and GTE Corporation are engaged in a \$53 billion merger. WorldCom has purchased MCI Corporation, America's second largest long distance carrier, for \$37 billion. And AT&T bought TCI, America's largest cable-TV operator, for \$32 billion. Now AT&T and British Telecommunications (BT) have announced that they will combine their international assets and businesses, a teaming of the world's two giants in the business. (Economist 8-1-98)

This is just the beginning however, as the telecommunications markets throughout Europe, Latin America and Asia are being liberalized, privatized and opened up to foreign investment. On July 29, Spain's Telefonica consolidated its leadership in Latin America by paying \$5 billion for the Sao Paulo portion of Telebas, Brazil's state-owned telecoms company, and a cellular phone company in Rio de Janeiro. Telebas is now being privatized in one of the world's largest telecoms privatizations. Other Brazilian telephone businesses were purchased by Telecom Italia and America's MCI Corporation. (Economist 8-1-98) Privatization of Brazil's telecoms follows those in Argentina, Mexico and other Latin American countries. Throughout the world, mergers, acquisitions and alliances are tying the telecoms industry together.

Who or What is on the Project Team?

There are many other examples of mega-mergers occurring around the world in various industries, including petrochemicals, automobiles, oil and gas, publishing and others. What are some of the repercussions? How might these mergers, and the trend toward larger global corporations, affect the project management profession? Here are just a few possible issues:

- Hundreds of projects will be undertaken within single large organizations (we are our own customers on projects). The corporations will benefit internally from better project management, requiring commitment from top management. The support and influence of top managers become more critical.
- Single organizations can impact more projects, project managers and other organizations. The project management systems, methods or training embraced by a single organization worldwide will have enormous influence.
- These large organizations can wield bigger influence and leverage on PM profession. We have already seen this within PMI by NCR, IBM, AT&T, EDS and others. The influence of global corporations will become a bigger issue, as more global companies get involved with such issues as global project management standards, certifications, etc.
- Larger organizations can sponsor or participate on larger projects. Large international projects will more frequently involve one or more of these global corporations, which have the multi-cultural and multi-lingual resources internally to take on large projects. Again, their importance to global PM will grow.
- Larger organizations demand more respect and attention. This issue can effect the financing, risks, structures, politics and management of individual projects. How is this influence factored into our models, our professional activities and interactions, and our globalization strategies?
- Larger potential impact on markets and industries. Certain of these global corporations will have the ability to effect entire local markets, industries and economies. For example, a global telecoms corporation winning a national license or acquiring a local telecoms company, or a major global industrial company deciding on a billion dollar investment in a plant in some global location. The influence of global energy, oil and gas companies is already apparent.
- What are the secondary benefits and risks associated with project teams. The participation of such organizations also changes the dynamics of project teams. This is an issue for further research and discussion.

WAR AND POLITICS

Still a World with Risks

Although the end of the Cold War may have reduced the risk of global nuclear war, it has opened the door to regional conflicts worldwide. That is nowhere more clear than in Africa, where bloody conflicts continue in at least four regions. While peace may now be possible in Northern Ireland,

war may now erupt between Iran and Afghanistan. Conflicts continue to simmer in the Middle East, while bloody fighting continues in the Balkans. Do these conflicts, often so far away from us, have any effect on the project management profession, or globalization efforts underway within the PM community? If so, why and how?

Nuclear Politics vs. Free Trade

Arguably still the most sensitive issue among the world's political leaders, nuclear weapons often dictate political and economic relations among nations. This became crystal clear in May, when the USA imposed economic sanctions on India and Pakistan after India conducted five nuclear tests and Pakistan followed with six of its own. (Katz 9/98). "The Indian tests, quickly matched by Pakistan, thrust South Asia security and the future of the world's non-proliferation regime towards the top of Washington's foreign policy agenda. The West is alarmed at the prospect of a nuclear stand-off between two countries which are already engaged in low level conflict" (Nicolson/Nicoli 9-21-98)

Then on August 31, North Korea test fired what was thought to be a newly developed ballistic missile with a range of some 1500 kilometers. Part of it passed over Japan, which responded angrily by suspending food and other aid .." "Japan also refused to sign a cost-sharing deal in which it, South Korea and America are supposed to by paying to build two light-water nuclear reactors in North Korea costing \$4.6 billion." (Economist 9-5-98) In the USA, "US intelligence tracked the rocket flight, concluding the solid-fueled third stage may have achieved a range of between 2,408 and 3720 miles" and "... might be used to enable the same type to propel a warhead far enough to reach parts of the United States." (Diamond 9-24-98) How might these events effect the project management profession in the Asia Pacific and elsewhere?

Economic Politics vs. Political Economics

Sometimes global economic issues are driven by political objectives. At other times, politics can be dictated by economics. In either case, entire countries are effected as are those nations, organizations and individuals tied to those countries. Two cases in point are Iran and Cuba. Iran and the USA have been at ideological and political odds for twenty years now, with no US company or person allowed to do business with Iran. Of course, all existing or potential projects there could not continue. Now, however, tensions may be easing and relations moving toward normalization, as much due to economic factors as anything. US corporations want to participate in oil, gas and pipeline projects which most of the world expect to be launched in Iran in the next few years. In fact, US laws effect business relations with any and all companies worldwide which do business with Iran. If these laws were to change, what would it mean to the project management profession?

Many of the same questions apply to Cuba, a large Caribbean country near to the USA but one with which trade and investment is outlawed by the US government. A holdover from Cold War animosity towards communist governments, America's relationship with Cuba may soon change. Already signs have appeared that freer market activities are increasing in Cuba, with American and European investments poised for changes in the law. When Castro dies or leaves office, it is highly likely that relations between Cuba and the rest of the world will improve dramatically and quickly. So what happens when Iran, Cuba and other currently ostracized nations reenter the global community, allowing investments and projects to occur?

Is Your Project Politically Correct?

Global and regional politics play an important and visible role on projects. What questions are raised in the light of global conflicts, nuclear tests, terrorist attacks, or other similar events? Here are a few to consider:

- Project management associations based in the USA, including PMI, and some European countries, including the UK, cannot conduct business activities of any kind with people or organizations in Cuba, Iran, Iraq, Libya and North Korea. This includes project management organizations. What should we do if contacted by a project management organization based in one of these countries?
- Project management professionals and organizations located in countries where war or conflicts occur, or even in nearby countries, are often both at physical risk and subject to direct economic and political repercussions. Participation in project management activities are directly affected in many ways. How should international project management associations such as PMI or IPMA respond?
- "Country risks" worldwide can change very quickly. Projects in politically volatile locations are always at risk, as well as participation in global project management activities. Should country risks be specifically addressed in PMBOK discussions or documents?
- Relations between countries with previously good relations can change dramatically after sudden political events. This can immediately affect business and professional activities, investments and projects. India is a good example, where US investment has grown in recent years but which came to an immediate stop after India's nuclear tests in May. Do these events require policy decisions by PMI or other PM associations? What is the direct affect on the project management profession within these countries?
- One lesson might be the need to be more careful and to consider national political and economic relations during meetings and discussions among project management associations. Whereas we might be promoting a global profession, our daily reality includes and is affected by relations between governments. What should we do, if anything?
- Those professionals working in uncertain political environments must be more sensitive to local politics, for their own sake. Those of us elsewhere should also be more sensitive to the needs and issues of concern to our professional colleagues in those situations. For example, project management leaders in some countries might be at risk if they say anything critical of their own governmental or industrial leaders. Are guidelines needed?

TOMORROW'S TECHNOLOGIES

Whatever Might Be Possible

On the verge of the 21st Century, it seems clear that the pace of technological change in industry and society is both rapid and continuing. In 1894, the great physicist Albert Michelson stated that "the more important fundamental laws and facts of physical science have all been discovered."

This was before relativity and quantum mechanics in his own field had been discovered. (Petit 8-24-98) The Twentieth Century has resulted in fantastic discoveries, developments and advances in science, technology and industry. How can we predict what will happen in the next 100 years, or even in the nearest future. In many industries and fields of technology, discoveries are continuing, new applications being developed, and new products being introduced into society which are affecting us worldwide. This is especially true in computing and communications.

Fibre-Optic and Digital Communications

"It is the near exponential increases in capacity made possible by the latest optical-fibre technology that are shaping telecoms strategies everywhere. The time is not far off when all the world's current voice traffic could be carried on a single pair of fibres the width of a human hair. Even today, that pair of fibres can carry all of North America's long distance traffic." New companies, such as Qwest in America, are building networks with almost unbelievable capacity. Qwest boasts that its digital infrastructure can transmit the entire Library of Congress across America in 20 seconds. What is more, the new networks are relatively cheap to build" (Economist 8-1-98)

Another aspect is the move toward" a connectionless architecture, based on Internet protocols (IP), that can route packets of data to their destinations at high speed. IP technology is not only ideal for the growing convergence between voice, data and video, it is also indifferent to distance and quickly expandable. (Economist 8-1-98) In addition to these developments, satellite-based and cellular communication systems and capabilities have continued to expand globally. In many parts of the world, where hard-wired telephone systems either do not exist or are too old to work efficiently, cellular telecoms services are used by everyone. As the global satellite-based services grow (Motorola's Iridium is now coming on line.), the world is becoming better connected than ever. And those communication capabilities will include multi-media moving at near light speed.

Thinking Machines in Machine Communities

"One intriguing trend is a rock-solid clue to future technology. Our devices and tools are getting complicated all the way down. In submicroscopic intricacy, they are starting to resemble biological organisms." "Electronic engineers are trying to learn how to store memory in computers, one atom at a time. Machines – complete with springs, gears, levers, robot arms – are shrinking to the size of grains of pollen." "Combine such intricacy with the ability to plant electronic brains in machinery and the approach of true artificial intelligence, and it becomes clear that our devices and their interactions are becoming more and more like communities of organisms." "Surely, machines will be making machines, with people less and less involved." (Petit 8-24-98)

Quantum Computing is Already Here

"Using atoms to solve calculation problems is a field that holds the promise of unbelievable computing power. Called Quantum Computing, the field has become the focus of intensifying research." "You can do with a few atoms what would take dozens of computers hundreds of years to do' Henry Everett, physicist." This is a field of computer science newly created by Lov Grover and Peter Shor at Lucent Technologies in California, whose "work is considered the foundation for research in what is fast becoming a hot field." "Lov Grover dreams of ... a quantum computer, a device using fancy physics to plow through seas of data that would

otherwise swamp today's fastest supercomputers." "... a computer using 'Grover's Search Algorithm' and other principles of quantum mechanics may go far beyond ... to plot airline routes or simulate complex chemical interactions for new drugs. This evolving breed of computer could ferret out the most obscure tidbits from the internet in a flash." "This all seemed pretty theoretical until just a few weeks ago, when researchers at IBM, the Massachusetts Institute of Technology and the University of California at Berkeley announced successful tests of a rudimentary quantum computer..." The National Security Agency in the USA has acknowledged that quantum computing research work "has mushroomed from amusing philosophical questions into something that may 'directly affect the future of computing and communications technology, which affects a large part of our civilization'" (Coughlin 8-4-98)

What Might it Mean for Project Management?

What are some of the possible repercussions of new or merging technologies on the project management profession around the world. The following are a few possibilities that come to mind, related to the technologies discussed above:

- Communication tools and formats will almost all be multi-media and digitally-based, expanding project communication capabilities and processes around the world.
- Data volume may no longer be a constraint to information processing or problem solving. Communication capabilities and capacity should enable us to say whatever we want, however we want. For example, PMI should be able to publish everything on its web page soon. It is already close to doing so.
- Virtual projects and project teams will become more and more common, and even required in some industries and on many global projects;
- There should be fewer and fewer geographic limits to performing projects, project teams, or relationships within organizations, or the project management profession. Already we see evidence of that within PMI, and IPMA.
- Project teams will include machines. How will that effect the PMBOK, our tools and methodologies, or our team-oriented processes and communication skills? When we plan and form project teams, do we include machines?
- When will machines evolve from being "tools" to being "team members"? Should our project teams include "machine trainers", "machine interface coordinators" or even "machine leaders"?

TRENDS WITH IMPACT

There are many trends that we might discuss, related to economic, political and industrial events that have occurred in recent months or years. Here are a few worth considering, with respect to potential impact on projects and the project management profession:

- Market consolidation
- Market liberalization and privatization

- Merging technologies
- Free trade and globalization of economies
- Free press and globalization of communications

Market Consolidations Promote Mergers and Change Project Organizations

Based on market deregulation and liberalization worldwide, market consolidation is occurring in many industries. This is especially true in the United States and Europe, and is leading to acquisitions and mergers in many markets and industries. Examples include telecommunications, media, power, and health services, among others. Combined with privatization and emerging free market economies, market consolidation is occurring in Asia and Latin America, often with the involvement of foreign companies or as the result of mergers. As pointed out earlier, these trends affect the dynamics of projects and project teams.

Privatization Promotes Globalization and Global Project Management

In countries and industries worldwide, privatization continues to grow, as governments move to raise capital, liberalize markets, or open industries to market-based competition and efficiencies. Privatization increases the number of projects, promotes the use of market-tested professional project management practices and tools, and generally allows the involvement of more commercial organizations in more projects. Since a majority of project management professionals are employed by private-sector organizations, the PM profession should grow in those locations and industries where privatization occurs. This is true in North America and other regions worldwide.

Merging Technologies Change the Project Environment and Project Tools

As implied earlier in this paper, technological advances will affect the tools, practices and approaches used by project management professionals in the future. Advances in multi-media communications will change and improve project planning, reporting and communications, in terms of both tools and processes. Some merging technologies will affect project work, for example computing and robotics or genetic engineering and materials science. A good example has been the impact of AUTOCAD on engineering and construction projects. Another example is how global positioning technology and computing have combined to improve farming in the certain parts of the USA.

A Global Economy Increases Need for Global Project Management

The globalization of the world's economy has increased the need for project managers and project management professionals, methods and tools that can be used in more than one country or geographic location. Multi-lingual PM professionals are in increasing demand. Multi-cultural issues exist on more and more projects, many of which involve organizations and participants from multiple countries. Global corporations need project managers and project team members who have international experience and often global perspective. And more multinational organizations and projects increase the need for global project management standards, certifications and coordination within the global project management community.

Global Communications Promote Global Project Teams and Project Business

As also discussed above, global communications capabilities promote the use of global projects and global project teams. Using internet-based communications systems, project team members can work together on a daily basis now as inexpensively as in a single location. In certain industries such as construction, energy and manufacturing, certain team members no longer need to be at the job site, but can participate in meetings and decisions via email, teleconference or video conferences. This capability broadens the marketplace, allows more global competition on projects, increases the number of projects involving foreign (global) participants, increases the potential size and variety of project teams, expands the availability and usage of global resources on project teams, and potentially leads to higher efficiencies and cost savings. Depending on the industry or project, any of these potential affects could alter the outcome of the project or the success of the enterprises involved. And these aspects are magnified by increasingly free global media/press coverage, which makes projects (and their status, success or failure) more visible worldwide.

THE BIG PICTURE

The Big Question Is?

So what does all this mean to the project management profession? Do we need a broad model to address the relationship of the project management profession to the global economy, global political conditions, technology or society at large? How can these issues and relationships be put into the proper perspective, or fit into a single model? Is it a multi-dimensional question, or multiple questions? Let us consider several of the dimensions.

Project Management and the Global Economy

Is the project management profession affected by global economic conditions or events? Clearly the answer is yes. On a local basis, the PM profession is directly affected by the state of the local economy. In a booming economy, in which there are more projects and more project management-related jobs, membership in professional societies and participation in PM activities increase. This has generally been the case in the USA in recent years. When the local economy crashes or goes down, then the local PM professional community also contracts, as in the case of Indonesia during 1997 and 1998. In economic conditions such as those experienced in Asia this year, however, there is another affect which might come into play, in a delayed manner. The initial contraction in the local PM profession might be followed by increased demand for project management education, training and certification, if these activities are perceived to increase the efficiency, competitiveness or attractiveness of local companies and professionals. That delayed effect seemed to occur in Russia and Eastern Europe in the mid-1990s, and may already be happening in Japan and other countries which are seeing increased local competition from international firms. If the local PM professional societies can offer "global standards" and "internationally-recognized" training, they will be more readily accepted. In these cases, however, PM training and other activities will generally need to be offered at locally-acceptable prices and in local currencies.

Since economic conditions have spread globally in 1998 with a sort of "economic contagion", it might be possible to extrapolate certain reactions and affects on regional PM associations and the global project management profession. The above suggests the need to incorporate economic

issues into strategic and policy models used by the PM profession, both on a local and global basis.

Project Management and Global Politics

Is the Project Management Profession affected by global politics? Again, the answer would seem to be an obvious yes. However, the relationship between the PM profession and governments is itself multi-dimensional. There are the regulatory issues, including the recognition of "standards" within government organizations, industry and the laws themselves. Both local and international laws and regulations are applied to most industries, therefore directly affecting projects and the management of those projects. Those regulations usually affect government-funded projects in various and broad ways, including contracting and reporting requirements. Private-sector projects are affected less directly, but still subject to the impact of changing laws and regulations.

Another aspect of the relationship between the PM profession and politics is related to organizational relations. This can also be multi-dimensional, especially in large countries such as the USA. For example, PMI has relations with various branches of the US government, including Department of Defense, NASA, US Army Corps of Engineers, Department of Energy, etc. Each of these governmental bodies sponsors and funds many projects, employs project management professionals and contractors, and exerts enormous influence on the industrial sectors associated with their projects. Changes in policies within any of these agencies can affect PMI membership, the involvement of employees of those agencies in PMI activities, and PMI's relationship with the agency itself. Entire changes in government, or events that affect the entire government, can have dramatic impacts on PMI membership, relations with government agencies, and PMI activities in Washington, DC. Other project management societies, or PMI chapters, in other countries must address similar issues related to the government agencies and policies with which they interact in those countries.

Globally, a relationship between the collective PM profession and various governments can be envisioned. This suggests the need for both an organizational model and policy model for use in understanding or managing the relationship of the PM profession to governments and political conditions.

Project Management and Industry

How is the Project Management Profession affected by Industrial trends and events? Here the relationship is both direct and critical to the survival of most professional PM associations, since a majority of professional members are employed by private sector industrial corporations. For sake of discussion, I include the banking sector, consulting enterprises and small businesses in with large industrial organizations. Large mergers, or new policies initiated by large global corporations can directly affect the activities and membership of local PM societies. In every case, local PM associations must establish positive relations with local industry leaders and executives. In many cases, the activities and services of the project management profession are developed to address the needs of these industrial leaders, who are the employers of project managers and PM professionals. This suggests that personal and organizational relations should be established and nurtured between the PM profession and industrial organizations. In addition, these relationships can affect long term strategies and policies established by the association. These relationships might be highlighted in the context of both a structural model and a strategic model.

Project Management and Technology

How is the Project Management Profession affected by technology? Rather than affecting organizational or policy issues, the affect of changing technologies would seem to be on project management methodology, processes and tools. In that case, there is an impact on the project management body of knowledge (PMBOK). For example, how will communication and team building processes be affected by machines being considered key members of the project team? How are project management processes and procedures evolving to address the needs of "virtual project teams"? What tools are emerging for the reporting of project costs in multiple currencies, or to show the effect of different inflation rates of those currencies, and progress reports in multiple languages, or sensitive to different cultural concerns? How are emerging and merging technologies incorporated into projects and project management in various industries and societies? These questions point to a strategic model for incorporating technological change into both project management itself and the PM profession.

Project Management and Society

What is the role of the Project Management Profession in society? The relationship in certain industries is clear, for example, the role of project management professionals on projects in health, education, science, etc. Often the impact is measured by the success or impact of the individual projects. Collectively, then, the impact of the PM profession on various social sectors can be considerable, based on contributions to the successful completion of projects, and might even be measured in terms of saving lives or changing communities. The impact on society via academic and educational relations, however, could be more profound. Project management curricula at leading universities is increasing worldwide, in the North America, Europe, Latin America, India, Israel, South Africa and elsewhere. Like "teaching the people to fish, rather than giving them fish", project management education distributes the impact of the project management profession throughout industry, government and society. This suggests that a long term strategic model might be used to define relations between the PM profession and social institutions, including academia.

A NEW GLOBAL MODEL FOR PM

A Multi-Dimensional Model

Based on the above considerations, I would like to suggest a three-dimensional model for the project management profession, to include the following elements:

- A Structural Dimension (Organizational Model)
- A Policy Dimension
- A Strategic Dimension

These elements are briefly discussed in the following paragraphs. Because of the author's own limitations, no graphic presentations are included. It is clear, however, that each of these dimensions (aspects) of a global model is also multidimensional, with levels, organizational considerations, geographic needs, and multiple interfaces.

The Structural Dimension

An organizational or structural model is needed to show the relations of PM professional organizations to both Industrial and Governmental Organizations. Within these three organizational groups will be multiple organizations, representing various local, regional and international PM associations, various agencies within individual governments, and various industrial organizations. In addition to the structural aspects, this model also suggests the need for direct relations between and among the leaders of these organizational entities.

The Policy Dimension

On both a local and global basis, the project management profession should develop policy models to provide a basis for responding to changing economic, political, industrial and social events and conditions. Basically, a decision-making model for use by leaders of professional associations, this model might affect products and services offered by the PM profession, pricing, timing and location of conferences, and other issues. For example, perhaps it makes sense for PMI or IPMA to offer "temporary" discounts to PM professionals in countries or economies undergoing extreme economic problems (such as Indonesia, Malaysia, the Philippines, Korea or Russia this year). What, for example, is the policy of the world's professional PM associations related to relations with China or Cuba? Should these be documented, agreed or coordinated?

The Strategic Dimension

What are the long term objectives of the project management profession, on both a global and local basis? The relationship of the PM profession to educational and social institutions, including academic institutions, health care organizations, community and religious organizations might be included in longer range strategic models. Relations with governmental and industrial organizations, including the military-industrial complex, should also be considered. Is the long range goal to have a positive impact on local living conditions or social welfare? In some countries, that might be the case.

LOCAL APPLICATION OF THE GLOBAL MODEL

How can this multi-dimensional "global model" possibly be realized? The answer is to begin on a local basis, with a local project management association or PMI chapter, perhaps in a country other than the United States.

Local Organizational Model

An organizational model can be developed to show the relationship of the local project management association (the PM profession) to government agencies and industrial organizations. Relations can include membership, contacts or formal agreements. Initially, the ties will be weak, but can grow in strength and influence as the local project management profession matures. This local structural model can be used for marketing, relationship building, developing products and services for local stakeholders, or for understanding the affect of policy decisions. It can also be useful for understanding the impact of political and industrial events and changes.

Local Policy Model

Each local project management association or professional organization should establish a set of policies related to economic, political, industrial or social conditions or changes. A matrix of decision alternatives related to various management issues associated with these four external elements might be established. These might be based on a global standard matrix, for issues common to the project management profession.

Local Strategic Model

Each local project management association or organization should have a long range strategic plan, which includes a set of long range objectives for the local profession. Those long range objectives should address the desired relationship between the local PM profession and the local political, industrial, academic and social institutions. This plan and model should also address the relationship between the local PM society or association and the global project management profession. In that context, long range goals associated with technology, global PM standards and internationally-recognized project management methods and tools should be addressed.

CURRENT GLOBAL STATUS

This section is intended to provide a very brief update to the global status of the project management profession presented at PMI'97 in Chicago (Pells 1997). In addition, an attempt is made to estimate current global status relative to the model presented above.

Status of the PM Profession in Various Regions

The project management profession has been evolving and maturing rapidly in recent years. In Western Europe, national project management associations have been fairly well established in most countries for many years. Most are national members of the International Project Management Association (IPMA), an international federation of project management associations and individual members. IPMA member associations meet semi-annually, subscribe to an agreed set of standards and certification program, and sponsor various local and regional seminars and conferences. IPMA sponsors a World Congress on Project Management on a bi-annual basis, with the next one scheduled to be held in the UK in June, 2000. In many Western European countries, however, chapters of PMI have also been formed in recent years or are in the formation stages. PMI chapters subscribe to standards, certification and organizational policies provided by PMI, which is based in the United States.

Throughout the Americas, PMI is the dominant project management professional association. Based near Philadelphia, PMI has chapters throughout the USA, Canada and Latin America. PMI and its various chapters sponsor seminars, regional conferences, monthly meetings and an annual Seminar/Symposium which is the largest gathering of project management professionals in the world. PMI is by far the world's largest professional PM association, with over 40,000 members in more than 100 countries. PMI has published a document entitled the "Guide to the Project Management Body of Knowledge" which has been embraced worldwide as a major standards document. In addition, PMI offers a knowledge-based Project Management Professional Certification, which has been adapted by a number of global corporations and has received widespread acceptance in the global marketplace.

In Africa and the Middle East, maturity of the modern PM profession varies widely. The profession is most mature in South Africa, where a PMI chapter was established in Johannesburg in 1981. A new national PM association was formed in the Republic of South Africa in 1996, a second PM association chartered in 1997, and a chapter of APM (UK) currently in the formation stages. PMI chapters were formed in Saudi Arabia (1993) and Israel (1996) which have grown and matured rapidly. While MPM has been practiced by major international corporations on mining, power, infrastructure and construction projects throughout Africa and the Middle East for many years, few other professional PM organizations or activities have been successfully initiated.

With the exception of Australia and New Zealand, the project management profession in the Asia Pacific region has been greatly affected by the economic crisis of 1997 and 1998. PMI chapters in Indonesia, Malaysia and the Philippines, launched with enthusiasm in 1995 and 1996, have seen membership fall recently as economies in those countries have crashed. Similar effects have been felt in Korea, where the PM profession is represented by the Korean Institute of Project Management and Technology (PROMAT), which was formed in Seoul in 1991. In Japan the PM profession is represented by the newly formed Japan Project Management Forum (JPMF), the Project Management Committee of the Engineering Advancement Association of Japan (ENAA), and a PMI chapter chartered in Tokyo in 1997. The PM profession in Japan has also been affected by the current crisis in Japanese financial institutions and markets, and the economic recession in that country. The PM profession in Australia and New Zealand has continued to grow, most notably with the formation and growth of PMI chapters in Melbourne and Sydney.

The PM profession in both India and Turkey have continued to expand in 1998, perhaps due to the fact that their economies are less dependent on external trade, therefore lessening the direct impact of current global economic pressures. Pakistan, however, has been affected by both economic and political conditions, both internally and externally. For example, Pakistan has once again felt the affects of economic sanctions imposed by Western countries following its nuclear tests in May. A PMI chapter in Karachi remains stuck in startup, while PMA grows in India, and new or potential PMI chapters grow in Ankara, Bangalore, Calcutta, Istanbul, and New Delhi,

In Russia, Ukraine, the Baltic states and other countries of the former Soviet Union and Eastern Europe, growth of the PM profession has slowed due to economic problems. These issues were exacerbated by the collapse of the Russian ruble and financial sector in September, 1998. The only real growth in those countries appears to be the interest in forming chapters of PMI in several cities, including Moscow, Prague and Skawina, Poland.

Globalization of PMI

Perhaps the most dramatic trend in the project management professional world might be termed the "globalization of PMI". Already the world's largest project management association, the PMI Board in 1997 formally decided that PMI should officially be an "international" PM association. PMI already has members in over 100 countries. PMI chapters have now been formed in 24 countries, including 99 chapters in the USA, 17 in Canada and 9 in Europe. 46 additional PMI chapters are in the formation stages in 22 countries. PMI executives and leaders are currently developing and implementing strategies and policies to support PMI chapters and members around the world.

Status of Globalization of the PM Profession

Globalization of the project management profession in recent years has been reflected by the following:

- Increased number of PM organizations, including PMI chapters, worldwide since 1990;
- Formal cooperation agreements between PMI and other PM associations worldwide;
- Growth and expansion of APM, IPMA, PMA, PMI and SOVNET;
- Global Project Management Forums (1995-1998) in which a growing number of countries and PM associations are represented;
- An increasing number of regional PM conferences, sponsored by various PM associations;
- International cooperation related to "competency standards" and PM standards in general; and
- Global cooperation, coordination and communications related to PM research.

These and other activities are continuing. Although competition exists between some PM organizations and products, all professional PM associations and leaders worldwide support the expansion of the project management profession to new regions, industries and organizations. Global coordination is now primarily achieved via participation in Global Project Management Forums or on individual initiatives (i.e. standards, research, etc.).

Global Status of the PM Profession Relative to the Multi-Dimensional Model

With respect to the multi-dimensional model proposed in this paper, few PM associations seem to have formal plans or strategies related to external events and conditions. While AIPM, APM, ENAA, IPMA, PMA, PMI, PROMAT, SOVNET and other PM associations have strong relations with national governmental agencies, I have seen no models or plans reflecting broad relations with major governmental or industrial organizations. The exceptions might be ENAA in Japan or PROMAT in Korea, both of which are more directly tied to both industrial groups and government agencies. My conclusion is that few if any project management associations worldwide have established structural, policy or strategic models which might provide a basis for responding to economic, political or industrial events, trends or even crisis in the world.

THE NEED FOR RESEARCH

Ultimately, this paper was intended to stimulate research in some of these global topics, and to suggest a practical model to help professional leaders relate to major external events and conditions around the world. I might suggest the following as possible topics for further research:

- Statistical analysis of the number of members or participants in various countries from governmental agencies, leading industrial organizations, or social institutions.
- The relationship of economic conditions in various countries to local project management-related professional organizations or activities. (perhaps it differs in different cultures, based on the maturity of the PM organization, or professional activities/services offered)
- Statistical analysis on global membership or participation in professional PM activities, with respect to economic or political conditions, both globally and in certain countries. (for example, have economic conditions in Japan affected the number of participants in this year's Japanese delegation to PMI'98, compared to past years? Or the delegation from Russia this year? Etc.)
- Development of a policy-related decision making matrix, with alternative responses to external events and trends.
- Analysis of the impact of specific industrial mergers on project management within the organizations involved, and the project management profession (i.e. PMI).
- Analysis of the relationship of international banking and finance to the PM profession, perhaps in selected countries (for example, in the integrated EC economy in Europe after introduction of a common currency).
- How international or global PM professional community might coordinate international cooperation among governments, as related to the planning and management of public projects.

Many other topics related to the issues discussed in this paper need to be studied and analyzed, before a comprehensive model can really be developed or broad understanding of the issues is possible. Many of these topics themselves might be the subject of international or global cooperation within the professional community.

WHERE MIGHT THIS LEAD US?

Perhaps these discussions and assessments of issues and models can lead to better understanding of the impacts of changing conditions around us, as we proceed with globalization of the project management profession. I might suggest the following long range objectives for these activities:

- A better coordinated global project management profession, with better defined and more clearly understood relations between and among the world's PM professional societies and associations;
- Better organized individual PM professional associations;
- A better understanding of how the PM profession relates to economic, political, industrial, technological, and social events, trends, conditions and institutions; and

- More rapid globalization of the PM profession, with the resultant positive impacts on economies, industries and society.

In any case, I hope to stimulate some discussion in those directions, and especially promote research into the environmental conditions surrounding our profession around the world.

CONCLUSION: GLOBAL TIDES OF CHANGE

Globalization of the Project Management Profession can continue, based on the collective leadership of the world's project management associations and societies. However, we must better understand the effect on the PM profession, both globally and on a local basis, of significant economic, political, industrial and technological events, trends and conditions. In this paper, I have attempted to "get my arms around" these issues. Several recent significant events and trends were discussed, including the current economic contagion which has spread around the world during 1998. An attempt was made to incorporate various issues and relationships into a multi-dimensional model for the project management profession. Perhaps this will provide a basis for discussion and research, and the development of useful models and policies for continued globalization activities. One thing is clear however. Any models to be used on a global basis for any length of time must be flexible, adaptable to changing events and conditions. We should all clearly understand that we are more globally connected than ever before. This year we have all felt the global tides of change. As with any ocean, tides of change will occur again.

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