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Project Management Requirements in a Changing Market

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A World of Rapid Change

In a world of rapid change, things are not getting any easier for the project manager and the discipline of project management. The general management skills are becoming more important as the project manager in the engineering and construction industry must have a business mindset and focus like never before. The market is changing. Everyone can agree with that simple statement, because we all know the only constant is change. But how is it changing, and what are the implications for the project manager and project management in general?

Status Quo is No Longer Sufficient

In the engineering and construction industry it has been the practice of most companies to draft some of their engineers into the project area – as project engineers and project managers. While some of this activity is derived from seeking to fulfill engineering management needs, it was believed it would also serve project needs of both the employer and the client. This activity is meeting with less success in today's changing market due to the changing requirements.

The New Requirements in a Changing Market

What are these new requirements and what impact do they have on the ability to succeed on projects? Why are they happening and what are the trends? When will the impact of these changes show up in our bottom line? What can we do about it? How do we deal with some changes outside of our control? Where are the changes taking place and will they impact our industry? These are all legitimate questions of concern. This presentation will attempt to answer these questions by reviewing the changes and trends in three parts: management in general, the project management discipline, and the project manager.

Some Interesting Developments in Global Projects

According to the Project Management Institute's Research & Development Director, the changes impacting project management include more rapid and major shifts in the global economies and increasing instances of indigenous requirements for replacing English as the language of business to accommodate another language, to name two.

The Changing World of Management

Fortune Magazine called Project Management “Number One Career Choice”, March 20, 1995 called “Planning a Career in a World Without Managers”.

Dumb-sizing

Downsizing, right sizing, and dumb sizing. One need be loyal to one’s self and develop skills that are both portable and marketable. Dumb sizing (over firing so a company needs to hire back on contract the very people they let go...but this time with a set of problems... usually higher pay although no benefits, no company loyalty, and a bitterness smoldering inside) indicates people have their old jobs as independent contractors.

Product Life Cycles

Product Life Cycles are measured in months not years or decades. While this may not be fully applicable to the typical engineering and construction industry capital project, it does impact the fringes of those projects. The expectations are still the same. The impact of being six months late when a life cycle is 18 months can be the difference between being in business or not, having a job or not. It is no longer acceptable to be late, over budget, or fail to meet the users needs. Customers expect more and the competition will provide it...whether it’s a software system for a capital project or the project itself.

Cross-functional Teams

Cross-functional teams are being used more and more to get results faster, cheaper, and with better quality. While this is not news to the engineering and construction industry, it is becoming more difficult to orchestrate these teams when they are participating from different countries and offices with different cultures and understandings. Communications is rapidly going from very important to absolutely critical in managing a project, managing change, and overcoming resistance to change.

Middle Management - Becoming a Dinosaur

Middle management is quickly becoming a non-value added dinosaur. Technology is replacing layer upon layer of middle management. Scheduling software can put information at an executive’s finger tips with a couple of clicks of a mouse that required three or more layers of management to filter up the chain previously. Effective managers add value these days by getting results coaching, mentoring, and facilitating team activity by applying sound project management principles.

A Greater Need for Integration

Systems, products, and services are getting more and more complex requiring a greater need for integration. As Eric Verzuh, PMP, said “think about it – when you go to the symphony, who gets the most applause? The only one who shows up without an instrument! Yes, the conductor...who integrates all the specialists!

The Changing World of Project Management

What is happening?

The trend today is continued growth in international markets with a growing emphasis on local participation and content in international E&C projects. This drives a higher need for “global” project management with skills in all aspects of business cooperative endeavors: joint ventures, consortiums, alliances, and most importantly integrated organizations from different countries, organization, and cultures stemming from each of them.

Types of changes dominating the scene today –

- *Project finance*. Project finance, sometimes referred to as “limited recourse, non-recourse, or off-balance sheet financing,” is growing exponentially as the preferred method of financing large international infrastructure and development projects. This adds a new and more focused discipline to financing projects with a different set of requirements than some E&C companies are familiar with.
- *Global competition*. Not new, but it continues to grow. Improved communications and transportation coupled with freer trade allow for firms halfway around the world to compete. More complex issues arise from language and cultural differences, and more effort for locals to “do for themselves” by forcing local participation in projects.
- *The size of large, international projects have grown in capital cost requirements.* This has forced some E&C companies to join with others in pursuing for the express purpose of risk sharing, better positioning to win in a competitive environment, and/or to supplement limited resources in equipment, personnel or technology for the project. This forces the E&C companies to have to deal with different corporate cultures within each different partnering relationships plus dealing with the clients’ personnel and their corporate cultures as more and more partnering relationships are established as the norm. This is becoming more critical as clients are forming new

project entities to develop and execute projects, thus adding to the complexity of relationships among clients and contractors. For example, some large projects may have several clients joined together to form a “project development client” and may have several contractors joined together to form a “project E&C contractor.”

- More remote and more environmentally sensitive. The location of large, development projects today have a tendency to be in more remote locations requiring a more sophisticated “pioneering” approach due to insufficient infrastructure availability. In addition, they have a tendency to be in more environmentally sensitive areas requiring enlightened approaches to the environmental impacts and politics and/or located in “environmentally sensitive” locations.
- More diversity. Projects are being staffed by much more diverse personnel in the E&C company’s home office, the project home office team, and on the project site team as clients and contractors continue to integrate their project teams on an increased basis due to partnering, especially local participation requirements, if any.
- Changes in conservative E&C companies. Companies that have been relatively conservative in the market and less inclined toward taking on risk projects are being forced by market changes to assume more risks on projects, including operating responsibilities and risks, in order to participate in BOO and BOOT type projects.
- Changes in aggressive E&C companies. Companies that have been independently aggressive in the market and more inclined to taking on risk projects are being forced by market changes to align themselves with others in partnering or co-venturing relationships more than ever before. This stems from the need to share more risks on the contractor’s side, and the growing demands of clients and their lenders to have a “stronger” contractor party with deeper pockets.
- Changes in project environment. Developing countries are no longer satisfied with international E&C companies coming to do projects – they want the benefit of local business development sharing in the international projects and are making more demands for local content and local participation by local contractors. This is forcing “partnering” relationships onto international E&C companies more than ever before.
- Rapid changes in technologies. Technology change is not new, nor is the change due to technology. What is different is the increased speed of change in technologies. What is unique now is that changes are occurring simultaneously in different areas causing a multiplier effect and “cross-pollination” between technologies – synergy in action. Taking advantage of technology for competitive advantage is a challenge because it is continuously improving.

- *Project Management Systems.* Today, the systems must be an integrated, distributed system. It must link to several locations around the world. It must now handle different currencies, time zones, and work rules. While there is more opportunity and benefit, there is more complexity and greater risk. For successfully implementing new technology, we rely more on organization and structure of project management.
- *Product obsolescence.* The impact this has on the E&C industry is growing. The time between initial design of a product and the production and sales of the actual, finished product used to be measured in years. Today, we are dealing with compressed time schedules due to market demand. Projects' require more coordination and have to be more exact. The stage is set for increasing pressure to produce new products more quickly and less expensively. The client will look to the E&C industry to furnish the solutions to this changing market.
- *Organization "Downsizing".* Organizations have reacted and continue to react to the pressure to improve financial results and to reduce their head count for greater efficiency. While the terms used may differ, we are all familiar with the purpose. The downsizing may be called "reengineering" in an effort to streamline business processes and get rid of perceived or actual fat in the organization. However, many times the downsizing is not a realistic result of proper business engineering, which is a legitimate and necessary exercise due to changing markets, but an effort to just cut costs. This results in the remaining people having to pick up the pieces in the form of extra work within their work. One growing impact of this is senior management's "scarcity of attention" and inability to dedicate sufficient planning time to projects.

This "downsizing" has an impact on project teams. Teams are smaller and there is less administrative support. People on the project teams must do more with less. This tends to force people to use technology in the hope of increasing speed and effectiveness as well as augmenting scarce resources. If this happens...good! But if this does not happen, project success is jeopardized.

Projects also face more technical challenges. With the downsizing many of the senior people who had knowledge of systems, processes, and the organization have left or retired. This void is felt in the projects as people struggle to uncover how things work and why they were designed the way they were. It is becoming a sad state of affairs. Twenty years ago, one senior person on a project team was worth his or her weight in gold because of the value of his or her experience and knowledge. This experience and knowledge eliminated learning curves and cut out work. When these people are no longer available, the project team may make the same mistakes that were made over 20 years ago!

- *Business engineering.* Business process reengineering (or engineering) is the process where an organization analyzes its basic business processes and restructure them to gain efficiencies. This restructures relationships across functional areas to utilize greater benefits from automation and improve management control or at least the perception of it. There is no argument about the savings derived from effective business engineering efforts. The challenge is that functional areas may have had little to no contact before. A major effort is required getting cooperation and overcoming resistance to change. This is critical in view of the fact that in reengineered organizations, expectations are greater accountability, measurement, and control – all of which have to be established in an organized manner. This impacts projects when clients or contractors, or both, are undergoing reengineering efforts.
- *Empowerment.* An increase in companies experimenting with empowered employees in an effort to get a flatter and leaner organization is noteworthy. The people who are in this type of environment often become empowered and accountable for improving their own business processes. The empowerment can lead to chaos if everyone adopts a different approach. A standard often imposed is a project management structure. E&C companies are experiencing increased situations where empowerment is being experimented with and can anticipate changes in clients' management structures.
- *Measurement.* Organizations began measuring their business process results years ago. What is different today is the growth on integrated computer systems and communications systems that allow for the measurement and collection of vast amounts of data. Measurement today is on a constant basis. Continuous measurement feeds into quality, business reengineering and continuous improvement. This allows for quick shifts to adapt to market changes, and is expected to grow in complexity and detail as well as speed of change and the frequency of change.
- *Inter-organizational systems.* Growing interdependence among suppliers and customers, clients, competitors, and generally within industry segments is a growing trend. This activity impacts the E&C contractor by the “domino” effect in some projects where subcontractors are tied to others, or where the client is tied to some suppliers, thus forcing international E&C contractors into relationships with suppliers and vendors that are positioned. As more alliances or other relations are formed in the future among both clients and contractors, this will become more of an issue and the impact on projects will be noticeable if not properly managed. The Internet and World Wide Web have made possible electronic commerce wherein structured electronic financial transactions are available. This will grow exponentially and the E&C industry must embrace and adapt to this cost-effective technology.

- *Project management itself has been affected by technology.* Traditionally, project management and planning were performed by professional schedulers or managers. Project management focused on a single person. This has changed. The modern tools are network based and support information sharing and a team approach to problem solving. More often, we would not consider doing project management today without electronic and voice mail, the Internet, the Web, database management systems, and intranets. These technologies put the team in touch with each other and support a group effort.
- *Organizational effects.* Considering these trends, the traditional hierarchical organization is under question. The organization must now, if it isn't already, a variable that can be altered to adapt rather than a constant. This organizational change gives new importance to the E&C project organization.

In all of these trends above, the project team and the project manager are the agents of change and improvement. E&C companies today recognize that projects are touching on the lifeblood and arteries of the organization as a minimum. Because the projects are more important in complexity and risks, and have more visibility, there is an increased need to do projects right (every time) and achieve success. As projects have become more complex, many organizations have been burned by the failure of large projects or have witnessed others that have been burned; therefore, many firms discourage large projects due to risk or they promote alliances or partnerships to pursue them.

- *Transformation of project management.* With the technology of today, we are able to manage projects that are global, cross-industry, large scale, and integrated across the E&C company, its clients, and project stakeholders. Pressure to achieve results quickly also impacts projects today from the client's demand to get to market or from the cost of capital standpoint, for example. Management is under tremendous pressure to show results and fast. Projects are becoming time critical under pressure. Resources are more limited today, thus the project team has to be more self-reliant and self-sufficient. This links to empowerment and accountability.

Flexibility is becoming more of a critical factor. Today, when some results are gained on a project, management may change the scope rapidly to expand the benefit and impact. People are not inclined to wait if something is proven and works. In some cases, this occurs prematurely before the benefits and impacts are known with results not in line with expectations.

□ *Megaprojects – What are they? What part do they play in the E&C future?*

Megaprojects *characteristics*: (a) extraordinary financing – public and private, (b) major political, economic and environmental considerations during planning and execution as well as post-construction and during operations. (c) ongoing involvement by stakeholders – financial, political, economic, the project communities, and the end-user communities, (d) major systems planning and considerations, (e) likely intense scrutiny by media, local communities, and stakeholders, and (f) a sense of urgency – either to gain hard currencies as a result or shortages in water, energy or transportation.

The *demand* for megaprojects is expected to continue to accelerate for needed improvements in infrastructure especially in the emerging nations, although this has slowed recently due to the current economic downturns. Megaprojects will become one of the key strategies for national governments going forward into the next decade to address their regional economic needs to improve infrastructure.

The *financing* of megaprojects will continue to become more difficult and more critical – as public funds may not be sufficient to develop economic and social infrastructures to help meet the growing demand and needs of the populations as they continue to grow. This shortage of public funding will drive public and private joint ventures, although they may not be recognized as such. Private capital in combination with public funds or other contributions by public bodies continue to fuel the exponential growth in project financing as a means.

The *management* of megaprojects will increasingly be viewed as a unique competitive advantage and considered a critical value-added competency due to the growing complexities of diverse strategic alliances. Megaproject planning and execution require extraordinary leadership and management skills in directing large cooperative organizations usually across broad geographical and cultural reaches. Managing the Key Stakeholder expectations throughout the multi-year and multi-phased horizons is mandatory as the stakeholders' influence grows in time and investment.

Megaproject managers – and other managers – will have to become conversant with the means for international competition and the marketing and development of products and services that will be appropriate for diverse markets and varying customers throughout the world. One new development according to PMI R&D is the trend of changing project leadership for different phases. The reason for this trend is to “freshen and motivate leadership and team(s)” and to gain a “phase expertise” that may not be invested in one individual throughout a megaproject's phases .

Five areas offer support in dealing with these trends, issues, and impacts:

1. The E&C company must recognize and then support the increased and expanded roles and skills required of project managers today. This can be accomplished by additional training in general and project management with a focus on the trends.
2. We must learn from successes and failures of the past in terms of how to organize and carry out projects with these trends in mind i.e., lessons learned with a focus on the trends and their impacts.
3. We can use the present and constantly improving project management methods that have been employed on thousands of projects over many decades.
4. We must utilize technology for tools to support the methods and adapt to changes in technology that enable us to react faster and accomplish more with less.
5. We must have project managers that are real change leaders managing at the speed of change. We must have resilient project managers that understand the business side, whether client or contractor, and the business needs of the project.

The Changing World of the Project Manager

- Competencies. As a final illustration of trends in global trade and organizations demanding cross-cultural competence, consider the issue of macro-projects. Many problems today are so complex, institutionally interdependent, and huge in scope as to require a combination of skills and commitments. A new kind of macro-management is desirable for many global projects that may involve a consortium of countries, companies, and capabilities. Among the latter, large-scale enterprises necessitate both experience and expertise that range from the financial, ecological and technical to the political, legal, and cultural. Such long-term projects at the level of \$100 million plus require a new and improved kind of project manager.
- Change at a Blur. The trend of increasing change in project complexity and time, require the project leader to lead the change, to seek alignment on a continuous basis, and be able to manage the expectations of an expanded group of active and passive stakeholders. Flexibility and resiliency are required for project management success.

Many changes to be expected in the future will have their roots in the changing world's population, the diversity of the workforce, and the demands of people for a greater share of the economic benefits of their societies.

We should always be reminded that the prediction of the future is easy. Getting that prediction right is the hard part. It is even harder to provide the leadership of the enterprise to capitalize on that future. The unanticipated changes of the future in the social, political, economic, technological, and competitive systems will likely bring about some changes in the theory and practice of project management too.

- *Cultural Understanding, Sensitivity, Communicating and Negotiating Skills.* The E&C project manager of today requires more cross-cultural management competency and this will grow as we move into the next millenium. The project manager must become a “global project manager as a norm” for domestic and international projects, with enhanced skills in international negotiating, multicultural communication, cross-cultural project organizations, and project financing needs and requirements.

As the E&C companies become more involved in their client’s businesses through alliances and other relationships, the project manager will require more in-depth general management skills for the future i.e., organizational behavior, strategy, finance, operations, and information technology. The new millenium project manager must have mindset for business (commercial), uncertainty management, automation and increasingly innovative technology.

Project Management – Inside and Outside of the E & C industry.

The *project management discipline* has emerged with considerable speed over the last few decades. It is now a prevalent occupation in many industries outside of the engineering and construction (E & C) industry. Project management and alternative team management have had and are exerting considerable influences on how the contemporary organizations today are dealing with change in their environments. Since project management has an interlink with the future through its ability to provide a management system and a philosophy for the management of operational and strategic change in contemporary organizations, it is becoming an increasingly important set of skills across a broad array of industries.

The *interpersonal skills* are growing in importance as project stakeholders become more influential in the practice of project management in their domain. This increased emphasis has come about in part by the increase in the use of nontraditional teams in the management of contemporary organizations.

The *ability to lead* projects and other team efforts will likely be a principal consideration in the promotability of managers in the future. Project management will become a distinct career path in the organizations of the future. A demonstrated track record in the management of successful projects and nontraditional projects will be a prerequisite for promotion to senior management positions in the enterprise of the future.

There will be a *growing, closer link* of project planning and strategic planning in the enterprise, as it becomes increasingly clear that project results are the pathway to the organization's future.

In Summary

The Next Millenium Project Manager – the “differentiating competitive edge” - must be a Global General Manager, a Cosmopolitan, and a Real Change Leader.

The project manager must be a “*global general manager.*” He or she must possess all the basic general management skills including a solid understanding of how projects are financed and how projects are taken from an idea to birth. Today's project manager must be able to better empathize with his or her clients than ever before, thus being astute in business aspects as they pertain to the client. In addition, the project manager must become highly competent in uncertainty management: mastering risk and opportunity.

The project manager must be a “*cosmopolitan,*” effective as an intercultural communicator and negotiator, creating cultural synergy, and leading cultural change, especially in organizations and on project teams. The project manager must be a “real change leader” and an extremely effective communicator.

The project manager must know how to get projects started right, manage the project as work is done, and track and control as required today. As a “*real change leader,*” he or she must effectively control change by knowing how to: (a) identify when changes are needed; (b) introduce change; (c) measure the impact of change; and (d) effectively manage change in a much more complex and diverse world of project stakeholders in a whirlpool of global shifts in economies and environments.

As the millenium project manager leads us into the future, one thing is clear. Continuing the influence that it has had on the past, project management will continue to contribute to the further modification of traditional management approaches and vertical hierarchies in the organizations of the future. The E&C industry must develop this “new breed” of project manager to deal with the changing and highly competitive markets of tomorrow.

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