*PM World **Journal*** *(ISSN: 2330-4480)*
Vol. XII, Issue II – February 2023
www.pmworldjournal.com

Teams of Teams
by David L. Pells
Second Edition

Teams of Teams: The new organizational reality for Program & Project Management [1, 2]

David L. Pells

It may be time for some organizations to rethink organizational concepts, relationships and structures for managing major programs and projects. In recent weeks, I have become familiar with a global program involving teams of administrative, diplomatic, financial, legal, program, project and technical participants, for projects being planned and deployed on a global basis. At the same time, I have studied some recent thinking in the US Department of Defense (DoD) related to "system-of-systems" and "Network-based" counter-terrorism approaches. It has now occurred to me that these DoD concepts are applicable in the program and project management world. Once again, the PM world can use some ideas originating among military thought leaders.

The Growing Importance of Networks – and Network Thinking

Most of us now have global networks of professional colleagues, co-workers and friends. We belong to professional organizations, or sub-networks of those associations. We network on the basis of personal or professional interests, technical matters or projects. The scope, reach and importance of such networks have been growing significantly in recent years, based on the worldwide web and the globalization of economies and communications technologies. Each person in any such network also belongs to other networks. On a program or project, that might include another team working on a different activity, task, or sub-project.

Military thinkers now recognize that fighting networks of mobile terrorist cells with large traditional military units does not work; the obvious answer is to create a network-based counter-terrorism organizational capability to increase flexibility and responsiveness. Such a change, however, requires changes in the supporting organizational processes and infrastructure. For example, if a resource is needed immediately for a task, or in response to a new development, that resource should be available and accessible quickly. New information gathered in one network, or team, may need to be shared immediately with other teams who can use the same information. In addition, small projects (at the bottom of the

---

[1] *Editor's note: Second Editions are previously published papers that have continued relevance in today's project management world, or which were originally published in conference proceedings or in a language other than English. Original publication acknowledged; authors retain copyright. This paper was originally published in the June 2007 edition of PM World Today. It is republished here with the author's permission.*

[2] How to cite this paper: Pells, D. L. (2023, 2007). Teams of Teams: The new organizational reality for Program & Project Management; originally published in the June 2007 edition of PM World Today; republished in the *PM World Journal*, Vol. XII, Issue II, February.

PM World Journal (ISSN: 2330-4480)
Vol. XII, Issue II – February 2023
www.pmworldjournal.com

Teams of Teams
by David L. Pells
Second Edition

WBS, for example) may each require a different mix of resources from different sources. Even for programs and projects that can be planned well in advance, more flexible organizational approaches or options may be needed.

If we now envision a project team or sub-project team (work group at any level of a project) as a network, we can now see that program and project teams are really networks of networks, teams of teams. In many cases, this might take the classical "hierarchy of teams" form; in other cases, a flatter network of teams can be envisioned. The networks can become complex and complicated quickly on large projects. Such organizational thinking also begins to resemble the DoD's system-of-systems concept in which systems are linked in order to share information, but remain independent in order to maximize flexibility, security and sustainability.

More Complex Project Teams

I believe that project teams are becoming both more complex and more necessary for a variety of reasons, including the following:

❖ **Rapidly changing technology** – Sophisticated technology permeates organizations, programs and projects today more than ever before. In many cases, new and different resources are required, from new and different sources that are now more often global in nature. In the semiconductor industry, the widely referenced "Moore's Law" (attributed to the former CEO of Intel) has dictated that computing capacity doubles every 18 months, on average. Huawei, one of the largest and most successful technology companies in China today, is driving product life cycles down to six months.

❖ **Rapidly changing project environments** – For global programs, both local and international economic and political environments can change rapidly. Organizational changes can also affect program and project activities, and especially project teams. Downsizing leads to outsourcing; outsourcing leads to off-shoring; off-shoring leads to virtual teams with more complicated communications and networking requirements. Such trends dramatically change the environment, condition & roles of program and project managers

❖ **Increasing numbers of organizations represented on project teams** – Project teams can now include participants from dozens of organizations. Classic matrix management no longer applies when so many organizations are involved, each with chains of command, authority and responsibility relationships, and related organizational issues (compensation, promotion, vacations, benefits, career related issues, etc.)

PM World Journal *(ISSN: 2330-4480)*
Vol. XII, Issue II – February 2023
www.pmworldjournal.com

Teams of Teams
by David L. Pells
Second Edition

❖ **Maturing program & project management methodologies** – As organizations have become more mature in the implementation of project management concepts, they are adapting strategic, program and portfolio PM approaches. This dramatically increases the number of projects in organizations, and the number and complexity of program and project teams. Within organizations, people can be members of multiple project teams, some with conflicting schedules and requirements. Each program or project involves hierarchies and networks of teams.

❖ **Increasing stakeholder oversight & security concerns** – Every organization today must also consider increased oversight by executives, boards of directors, shareholders and governmental agencies. Increased security concerns since 9/11/2001 and increases in web-based crime have led to the need for new approaches and new resources (new participants on project teams) on major programs & projects.

There are many other reasons why there seem to be more complex program and project teams today.

Widely Dispersed & Virtual Teams

In a global economy, resources are now being acquired worldwide, on more and smaller programs and projects. International programs and projects must secure resources on a local basis, for a wide variety of reasons. In some cases, financial issues lead to virtual teams. In some cases, legal or diplomatic issues lead to the increased participation of local resources, leading to increased pressure on program and project managers related to plans, budgets, schedules, communications, performance, risks and other matters. Virtual project teams can result in significant cost savings and other benefits, but increase communication needs, leadership requirements and project risks.

More Stakeholder Involvement

More program and project managers are finding it both useful and wise to include more stakeholders in the project planning, measurement and governance processes. In many cases, customers may participate in and approve project plans, objectives, schedules and success measures. Citizen groups are involved in public programs and projects in various ways. Regulatory agencies, legal counsel, investors, financial advisors, and even vendors and suppliers can now often be found on one or more teams on major programs and projects.

External stakeholders often do not reside in traditional organization structures, and may not be subject to traditional lines of authority or communication. Program and project managers are often forced to develop new or different communication mechanisms, processes or procedures. When stakeholder participation increases, or changes frequently, it can become time consuming and expensive for the project or program managers to deal with. While such issues can often be anticipated, they are not often planned or included in budgets and

PM World Journal *(ISSN: 2330-4480)*
Vol. XII, Issue II – February 2023
www.pmworldjournal.com

Teams of Teams
by David L. Pells
Second Edition

schedules, or risk management plans. Nevertheless, every program and project requires a stakeholder management plan, and stakeholder involvement is increasing in most industries.

The Need for More Flexibility & Responsiveness

Many of the above-mentioned factors also result in more frequent changes in project scope, schedules and resources. The need for more flexibility and responsiveness is a natural outgrowth of PM in a rapidly changing world. Globalization, virtual project teams, larger and more complex programs, these all make long term program and project planning more difficult.   In those industries where project and product life cycles are contracting, organizations are adapting more "agile" PM methodologies and tools. These trends put more pressure on traditional PM. Change control can assume as much importance as plans and budgets, and often takes as much time and attention.

Weaknesses of Traditional Administrative Systems

Traditional administrative and organizational policies, practices and systems are often neither flexible nor responsive enough to meet the needs of many program and project managers today. The following are just some of the systems within large organizations that may need to be modified to allow more flexibility:

- **Accounting & Financial Management Systems** – Accounting and financial management systems should allow and facilitate program and project accounting and reporting. Summarizing and reporting data by WBS numbers and responsible persons should be options.   Accrual-based accounting is mandatory for accurate project financial reporting, with "estimated actuals" a common alternative. Program managers need to see budgets and financial performance information for projects, portfolios of projects, sub-projects, major tasks, major contracts, and performing or responsible organizations.   In some cases, reporting may need to be in multiple or foreign currencies.

- **Communications Systems** – Communications policies, procedures, systems and tools need to accommodate the needs of program and project managers. Mobile communication technologies are not only more widely used, they are almost universally needed today. Managers of large or complex programs and projects must be properly equipped. Policies & procedures must be modernized. Communications is rapidly becoming one of the most time-consuming activities of program and project managers; systems must be appropriately flexible and useful.

- **Contracting & Procurement** – As programs and projects get larger and more complex, more work must be accomplished with external resources. Contracting and procurement policies, forms, processes and systems must accommodate increased volume, more complex statements of work & schedules, more rapid approvals & turn

PM World *Journal* *(ISSN: 2330-4480)*
Vol. XII, Issue II – February 2023
www.pmworldjournal.com

Teams of Teams
by David L. Pells
Second Edition

around of documents, automated payment of invoices, web-based communication & reporting systems, and other modern conditions. Lengthy contract approvals and delayed payments to contractors are neither necessary nor useful when contractors and suppliers are such critical members of project teams.

- **Human Resources & Personnel Management Systems** – Policies and procedures for hiring, firing, reassigning and rewarding people need to be responsive to the needs of program and project managers, not just to traditional organizational (line) management.

- **Project Management Information Systems** – need to be more open and flexible, while maintaining appropriate data and information security. Project management information systems will become even more critical for managing resources, as organization-based databases and systems cannot keep up with so many different participants and organizations, or project changes.

- **Travel Management Systems** – Travel authorization and approvals need to be streamlined, to reduce the time and red tape for international travel. Travel service providers should offer more pricing and change options for organizations engaged in program and project work. Organizations might negotiate more flexible travel procedures with airlines, hotels and/or others. Budgetary and approval authority must be embodied in project managers, not in line management. Project team members should be able to go where they are needed when they are needed, which may be tomorrow (not next month).

- **Work Authorization & Change Control Systems** – These systems need to be automated and web-based, so documents and approvals can be obtained and processed easily and quickly, from any location.

Teams of Teams

Large complex programs include hierarchies & networks of teams, literally teams of teams. Each task, contract, sub-project, project and program element will have a team to perform the work. Many of the teams may involve different people, representing different organizations. Many of the teams at lower levels of the WBS may not be determined until the program or project is well underway. Many of the requirements for team composition will be unknown until sometime in the future on many projects. In many cases, it will be well into the program or project before the overall organization structure is clearly defined and fully staffed.

If program and project managers focus on the project scope of work, schedules, budgets, specifications, quality requirements and performance management, then teams can be formed, used and disbanded as resources are needed. Traditional project management

PM World Journal (ISSN: 2330-4480)
Vol. XII, Issue II – February 2023
www.pmworldjournal.com

Teams of Teams
by David L. Pells
Second Edition

concepts and methodologies (such as EVM, network scheduling, performance measurement, etc.) can still be applied. But organizational models, and the leadership, communications, stakeholder management, risk management, procurement and other aspects of resource management should be modified (modernized) to accommodate this new reality.

Some Suggestions

What are some possible solutions? Here are some suggestions.

1. **Recognize the importance & power of networks –** networks can be sources of new information, resources, options and solutions. Networks can also be powerful communication mechanisms, and are becoming more common throughout organizations. Networks can be flexible, fluid and responsive, and should be encouraged and harnessed by program and project managers.

2. **Recognize the value of teams** – the importance and power of teams and teamwork are well documented in the PM literature and well understood around the world of project management. These concepts should be revisited periodically. All project work is accomplished with teams; they are the primary reason everything gets done. Effective teamwork can shorten schedules and reduce costs.

3. **Recognize "teams of teams" as an organizational strategy** – it may be impossible to abandon formal program & project organization structures. But they can be smaller, flatter and more flexible, if the "teams of teams" strategy is employed. At the operational project and task levels, the structure can be looser and more fluid, as teams are formed to accomplish work and exist only for the length of the project or task (including close-out, of course). Like networks, teams of teams can be flexible and responsive.

4. **Empower teams & team leaders** – teams should be responsible for project planning, performance and reporting. Each team should have a recognized leader. Executives should recognize, empower and support project teams and team leaders. Project teams should have the resources & tools needed to perform their work, and should be motivated & rewarded properly.

5. **Make administrative systems project & team-friendly** – Chief information officers, administrative managers and technology suppliers should understand that administrative systems must be project-friendly and team-friendly. As more work is accomplished through projects and teams, often networks of individuals in multiple organizations and locations, administrative policies, processes and systems must facilitate rather than obstruct project work.

PM World Journal (ISSN: 2330-4480)
Vol. XII, Issue II – February 2023
www.pmworldjournal.com

Teams of Teams
by David L. Pells
Second Edition

More research is needed

Teams are a powerful tool for program and project managers. Like networks, they can be formed to address any issue or task. In my opinion, traditional organizational concepts and forms cannot fully satisfy the needs of large programs and projects today. More stakeholder groups must be considered and, in some cases, included on project teams. Teams may consist of participants and organizations external to the owner's or project manager's organization, which might not fit traditional structures or lines of authority. Most importantly, project and program managers need more flexibility, especially on projects where responsiveness can save time, money or lives. Teams of teams are the new reality of program & project managers. More flexible organizational forms and approaches, and supporting administrative systems, can reduce risks and lead to more success, in less time and at lower costs. More research, however, is needed on these subjects!

About the Author

David L. Pells

Managing Editor, PMWJ
Managing Director, PMWL

David L. Pells, PMI Fellow, HonFAPM, ISIPM, PMA, is Managing Editor and publisher of the **PM World Journal** (www.pmworldjournal.com) and Managing Director of the PM World Library (www.pmworldlibrary.net). David is an internationally recognized leader in the field of professional project management with more than 40 years of experience on a variety of programs and projects, including engineering, construction, energy, defense, transit, technology and nuclear security, and project sizes ranging from thousands to billions of dollars. He occasionally acts as project management advisor for U.S. national laboratories and international programs, and currently serves as an independent advisor for a major U.S. national security program.

PM World Journal _(ISSN: 2330-4480)_
Vol. XII, Issue II – February 2023
www.pmworldjournal.com

Teams of Teams
by David L. Pells
Second Edition

David Pells has been an active professional leader in the United States since the 1980s, as founder and president of several PMI chapters, founder of PMI's first SIG (Project Earth), and member of the PMI board of directors twice. He was founder and chair of the Global Project Management Forum (1995-2000), an annual meeting of leaders of PM associations from around the world. David was awarded PMI's Person of the Year award in 1998 and Fellow Award, PMI's highest honor, in 1999. He is also an Honorary Fellow of the Association for Project Management (APM) in the UK; the Instituto Italiano di Project Management (ISIMP) in Italy; and Project Management Associates (PMA) in India.

Former managing editor of _PM World Today_, he is the creator, editor and publisher of the _PM World Journal_ (ISSN: 2330-4880). David has a BA in Business Administration from the University of Washington and an MBA from Idaho State University in the USA. He has published widely and spoken at conferences and events worldwide. David lives near Dallas, Texas and can be contacted at editor@pmworldjournal.com.

To see other works by David Pells, visit his author showcase in the PM World Library at _http://pmworldlibrary.net/authors/david-l-pells/_