ENSURING YOUR PROJECT'S SUCCESS - A CHECKLIST

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This paper reviews organization structures and practices that influence project success. A project manager and his team may demonstrate mastery of all the Project Management Institute Body of Knowledge management disciplines, but organizational factors beyond the project manager's control can significantly limit his ability to accomplish his goals. In the following discussion these factors are divided into three categories: Organization Structure, the People/Political Culture, and Project Administration. The project manager should consider these factors when assessing project risk.

We will begin with some organization structures and the positions in which a Project Manager is likely to find himself. The most desirable structures, in the opinion of this author, are highlighted. Then practices are described which are common to many organization cultures that can undermine the ability of the Project Manager to accomplish his goals. And finally, we will review some common practices in Project Administration (planning, tracking, and reporting) that can undermine the success of a project. Each practice is followed by a recommendation to the Project Manager and to one or more other individuals who are in a position of influence.

The examples used are from the Western corporate world, but the reader should be able to apply the principles to projects containing contractor relationships, Western government projects, and even projects occurring in countries where the cultural, legal, and financial infrastructures differ from the West.

Abbreviations used in the figures and text are defined on their first usage and also appear in the Glossary at the back of the paper. The Glossary defines terms as they are used in this discussion.

PROJECT ORGANIZATION STRUCTURES

The Project Manager (PM) rarely has the luxury to define the organization structure in which he will operate. Thus he needs to adapt to the existing organization/power structure in order to achieve his objectives. For the purpose of this discussion it is assumed that the organization chart represents the true power structure, although this is not always the case. Figures 1 through 8 illustrate organi-

zation structures in which the PM may find himself. They are listed in order of the PM's declining control over the Project Participants (PP's) and other resources.

Figure 1 shows a project being executed by a single Project Team (PT) which consists of Project Participants
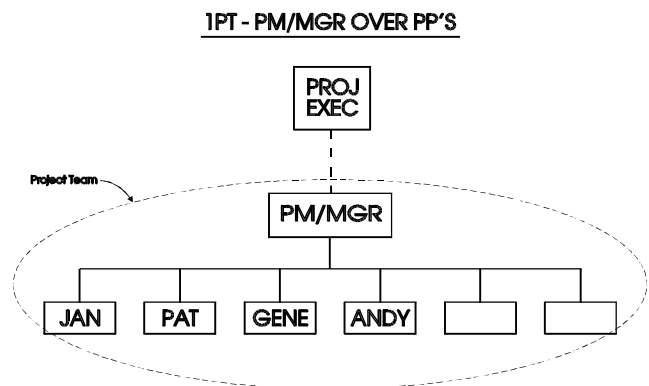

1PT - PM/MGR OVER PP'S

FIGURE 1

(PP's) and their Manager (MGR). In this structure the PM is also the manager of the PT members or PP's. He is a Project Manager/Manager (PM/MGR). We call this project structure "1PT - PM/MGR OVER PP's."

The Project Executive in this, and all of the structures to follow, is the executive or government official who has been designated to make the project happen. His career is tied to project success, and he may be enlisted to use his influence to help the project succeed.

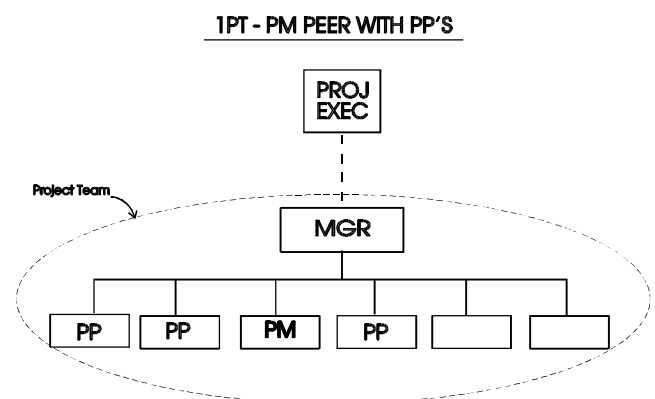**1PT - PM PEER WITH PP'S**

FIGURE 2

Figure 2 shows a project composed of a single PT, but the PM is on a peer level with the PP's. The PM and PP's report to a common MGR. The PM's influence over the PP's is through the MGR. We call this structure "1PT - PM PEER WITH PP's."

Figure 3 is a multi-team project where the PT's report up through multi-level management structures called Organizations (ORG - See Glossary and Figure 9). An ORG
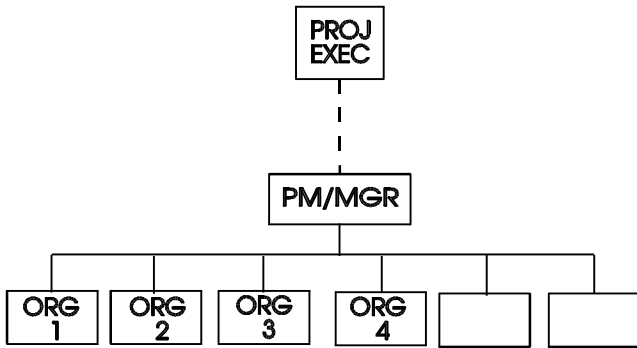
MULTI-ORG'S UNDER PM/MGR

FIGURE 3

may be a single MGR and his PT, or it may be a MGR supervising multiple levels of management which supervise multiple PT's, or it could be an entire company. Here, as in Figure 1, the PM/MGR is in a position to control the project's activities because of his position in the reporting chain of command. This structure is called "MULTI-ORG's UNDER PM/MGR."

In Figure 4 the PM has a peer relationship with the MGR's of the participating ORG's. His control of the PP's is through the Project Executive (PE). This structure is called "MULTI-ORG - PM PEER WITH ORG's."
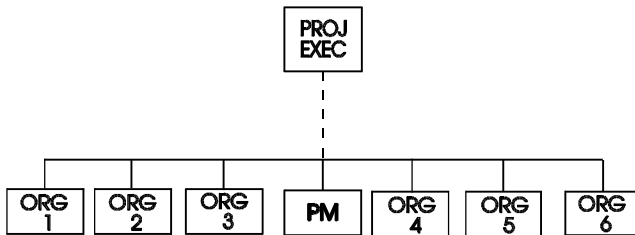
MULTI-ORG - PM PEER WITH ORG'S

FIGURE 4

Figure 5 shows the PM as part of a Project Office (PO)

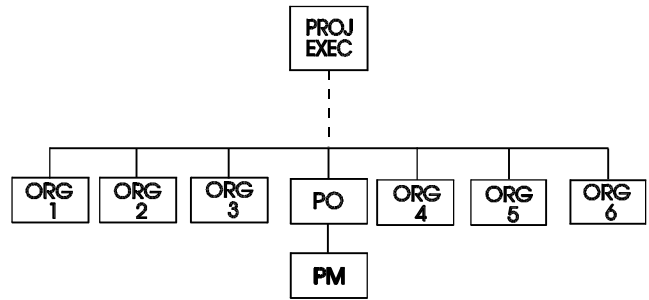**MULTI-ORG - PO PEER WITH ORG'S**

FIGURE 5

working for a Project Office Manager (POM). The PM must influence two levels of management above him to control the PP's through the PE. This structure is called "MULTI-ORG - PO PEER WITH ORG's."

In Figure 6 the PM works for one of the participating ORG's and may be many levels of management below the PE. He may have difficulty acquiring support because of his management's multiple responsibilities and other priorities, and he may even encounter interference from his management if his PM duties do not present his ORG in a favorable light. This structure is called "MULTI-ORG - PM WITHIN ORG."

MULTI-ORG - PM WITHIN ORG
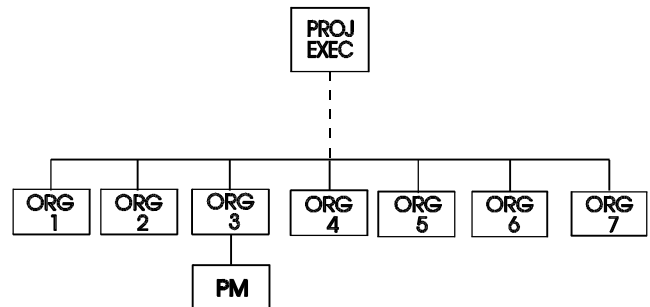
FIGURE 6

In Figure 7 the PE has no direct influence over the ORG's and their PT's. If all ORG's are part of the same company, somewhere one or more levels up, there is an executive such that all PT's fall under his chain of command. It could very well be the CEO. The higher up that person is, the less likely he will take an active interest in the project. The PM has to communicate that many levels upward to influence the PT's. This structure is called "MULTI-ORG - PE PEER WITH ORG's."

MULTI-ORG - PE PEER WITH ORG'S

FIGURE 7

Figure 8 is the same as Figure 7 except that the PM now works within a PO creating one more level to influence. This structure is called "MULTI-ORG - PE PEER WITH ORG's, PM WITHIN PO."
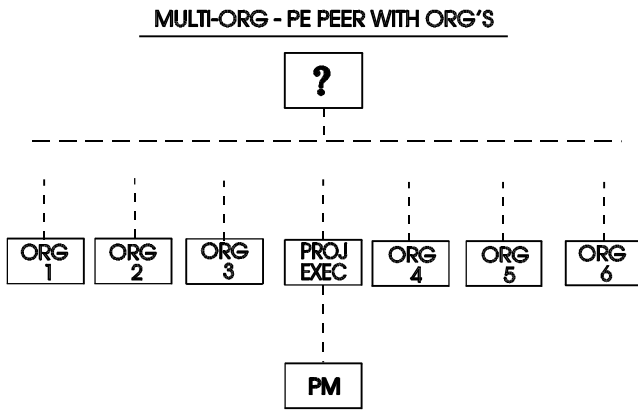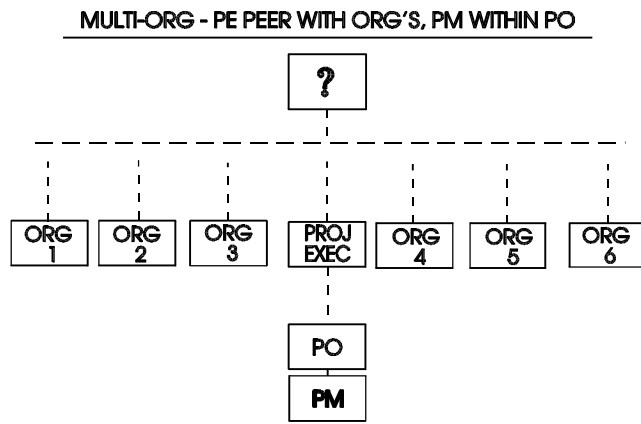

MULTI-ORG - PE PEER WITH ORG'S, PM WITHIN PO

FIGURE 8

Preferences

Given conscientious support at all levels, competent participants, and sufficient resources, projects can succeed with any of the above structures. However some structures present greater challenges to the PM than others. For example, a PM/MGR is doing two jobs, PM and MGR. One may argue that he has better control as PM/MGR but, with a supportive MGR, a PM can be even more effective, invoking the MGR's influence when needed, maintaining good relations with the PP's, and avoiding the personnel responsibilities of MGR. Thus for small single PT projects Figure 2, 1PT - PM PEER WITH PP's, is preferred over Figure 1, 1PT - PM/MGR OVER PP's.

For larger multi-PT projects, assuming an involved and effective PE, Figures 4, MULTI-ORG - PM PEER WITH ORG's, and Figure 5, MULTI-ORG - PO PEER WITH

ORG's, are preferred over Figure 3, MULTI-ORG - PM/MGR OVER ORG's. If the PE is ineffective Figure 3 is preferred.

Figure 6, MULTI-ORG - PM WITHIN ORG, should be avoided because of the mixed priorities of the PM's management chain. Figures 7, MULTI-ORG - PE PEER WITH ORG's, and Figure 8, MULTI-ORG - PE PEER WITH ORG's, PM WITHIN PO, are both precarious unless attentive proactive support for the project exists high up enough to influence all participating organizations.

In summary, for small projects Figure 2, 1PT - PM PEER WITH PP's is recommended. For larger projects, Figures 4, MULTI-ORG - PM PEER WITH ORG's, and Figure 5, MULTI-ORG - PO PEER WITH ORG's, are preferred.
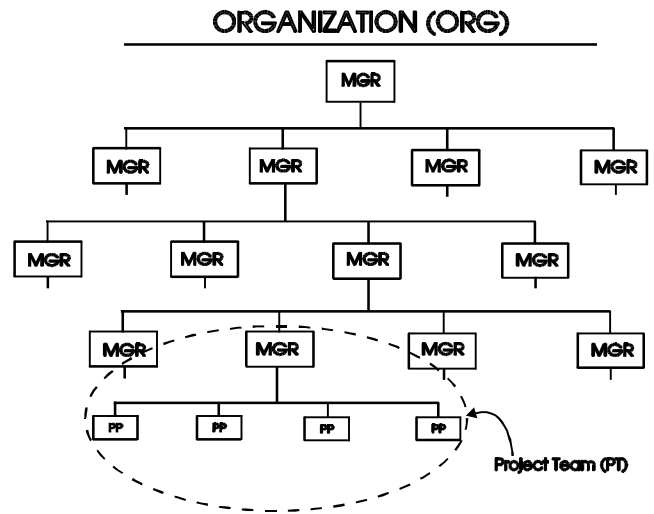
ORGANIZATION (ORG)

FIGURE 9

THE PEOPLE/POLITICAL CULTURE

The Project Manager not only needs to understand the organization structure in which he operates. He also needs to be familiar with the practices of the organization culture and how these practices are likely to affect his project. Only then will he will be able to realistically assess how to achieve his objectives, or whether they are achievable at all. The following practices can make the PM's job extremely difficult and sometimes impossible.

1.   NO ONE IN CHARGE

A high level executive (Project Sponsor (PS)) identifies a project and asks the Managers (MGR's) of several subordinate Organizations (ORG's) to implement without des-

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ignating one of them as the leader (PE). See Figure 10. The PS asked them because he has confidence in their capabilities, and/or because the project requires the capabilities of people in each of the subordinates' organizaons.

Commitment to the project may vary among the chosen MGR's:

a.   I am fully committed and will do everything necessary to make it happen.

b.   I'm busy with other commitments but will try to cooperate. I certainly don't have time to lead the effort.

c.   I'm too busy. My people don't have time for this. I will contribute the minimum.

d.   I don't believe in the project and will avoid contributing.

e.   I am against the project and will undermine it if the opportunity presents itself.

NO ONE IN CHARGE

FIGURE 10

If all the MGR's are category "a" they will act in good faith. But because each MGR sees himself as having equal say over planning and implementation, and because each has his own vision of the project, it will take time to get agreement on every step. Disagreements will most likely prevail throughout the life of the project and could cause significant delays or failure.

The more MGR's there are in the lower categories, the greater the project risk.

If one of the MGR's is finally given clear unshared responsibility he then becomes the PE in a Figure 7, MULTI-ORG - PE PEE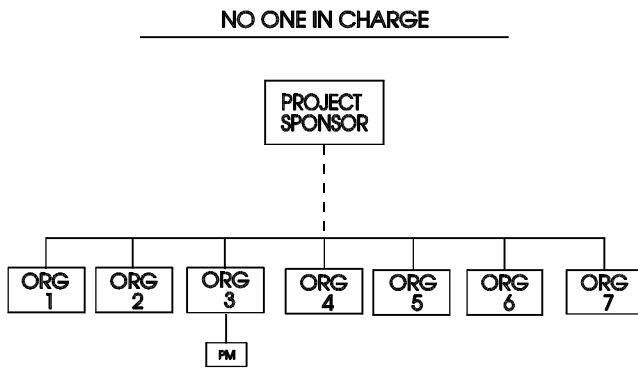R WITH ORG's, or Figure 8, MULTI-ORG - PE PEER WITH ORG's, PM WITHIN PO, organization structure. The problems the PE and PM will then encounter are discussed in factor number 2, RESPONSIBILITY WITHOUT AUTHORITY.

RECOMMENDATION TO THE PM:
     Try to avoid this project until a Project Executive (PE) is designated, with authority over all participating organizations, as shown in Figure 4 or Figure 5.

RECOMMENDATION TO THE PROJECT SPONSOR:
     Give clear responsibility to a single PE and form a Figure 4 or Figure 5 organization structure.

2.   RESPONSIBILITY WITHOUT AUTHORITY

Large projects are sometimes configured so that the PE has a peer relationship with the leaders of the other participating organizations as shown in Figure 7, MULTI-ORG - PE PEER WITH ORG's, and Figure 8, MULTI-ORG - PE PEER WITH ORG's, PM WITHIN PO. The PE has been given clear responsibility but lacks authority over the other participating ORG's. He and the PM must rely on contractual arrangements or documents of understanding. Unless the PM can enlist the support of an executive high enough in the organization to influence the participating ORG's he cannot control project resources and will most likely miss commitments.

RECOMMENDATION TO THE PM:
     Avoid this one unless you have access to someone high enough in the organization to influence the participating ORG's.

RECOMMENDATION TO THE PROJECT SPONSOR:
     Choose the PE at a high enough level to have authority over the participating ORG's.

3.   CONFLICT OF INTEREST

The National Cancer Institute is trying to find a cure for cancer. Congress is working on campaign finance reform. General Motors is developing a car that will last indefinitely. Government agencies are working to reduce bureaucracy. Drug companies are developing products to improve your health. The Pentagon is working for peace.

What do all these projects have in common? Each is run and staffed by people who will be negatively affected by successful completion of their project. These projects will make enough headway to convince their sponsors that success is just ahead and to maintain or increase funding, but they never end. A PM on a project whose success will negatively impact management and/or the participants must be sensitive to possible hidden agendas.

RECOMMENDATION TO THE PM:
If you enjoy completing your projects try to avoid this one until conflicts of interest are eliminated.

RECOMMENDATION TO THE PROJECT SPONSOR:
Create a political/economic environment such that the PE and participating ORG's will clearly benefit from successful completion.

4. LACK OF ACCOUNTABILITY

In some large corporations and government agencies projects routinely fail, writing off millions of dollars of effort and resources, and the responsible executives suffer no consequences. In fact they are either given another comparable job or moved up the ladder. I have seen Directors promoted to VP and VP's to Division Manager after the project they were heading failed and wrote off millions.

"Why?" is a topic for another paper. One finds this practice where the people at the very top of the organization do not discipline subordinates. They may be too forgiving, too removed from the business, incapable of recognizing incompetence, embarrassed to admit that someone they chose is incompetent, or they may have a personal relationship with the individual that overrides business considerations. This behavior pattern waterfalls through every level of the organization, retaining and promoting the non-threatening incompetent and ensuring that competent workers and managers never become a threat. Excellence, if it exists in this organization, is not supported from above and must survive on its own, lonely and frustrated. If your PE is part of this culture and will not suffer from failure your project is at risk.

It is possible that, in spite of the culture, your PE is competent and demands performance from those under him. It is also possible that your project is so important that the management chain takes it seriously. In either of these exception cases you may be able to accomplish your objectives

RECOMMENDATION TO THE PM:
If you are not convinced that
- The PE will suffer some negative impact if the project does not successfully complete, or
- The PE is competent and will demand performance regardless of the surrounding culture, or
- The project is so important that the management chain will take it seriously,

avoid this one. If you decide to take the project select your PP's carefully. An ORG can be so crippled by this pattern that competence even at the PP level is difficult to find.

RECOMMENDATION TO THE PROJECT SPONSOR:
Irrespective of the surrounding culture find a competent PE, or ensure that the PE understands that he will suffer some negative impact if the project fails.

5. EXECUTIVES, MANAGERS, AND PROJECT TEAMS LACK QUALIFICATIONS

Examination of failing projects often yields the observation that the project team is just not qualified to do this work. The choice of unqualified people can usually be traced back to the PS and his choice of PE and participating ORG's. The PE chosen to lead a project may have no experience with the technology of the work to be done (ie. a financial executive building software), and/or they have no record of success managing projects. This is common in government where political favors are returned by appointing supporters to jobs they know nothing about.

In the corporate world a PS, lacking ability to select those with appropriate skills, will base his selection of PE upon criteria such as:
a. The person was due a promotion and this opportunity was open, or
b. The person was available and the project needed someone.

A PE lacking project management qualifications may also select a PM on the basis of "a" or "b" above. Lacking technical qualifications neither will be capable of selecting the best ORG's to support the project, and during execution they will not know whether the job is being done properly.

The PM, lacking technical and project management qualifications, will not be able to organize and coordinate the work or control the schedule, or ensure that basic project management functions are properly supported. Not recognizing his shortcomings, the PM may attempt to appear decisive and in charge, and make some bad decisions.

The poor selection phenomenon works its way through the management chain all the way to the bottom of an organization and can cripple a large effort. Even when good people accidentally get into such a project, the inability of their MGR's to appreciate their contribution, and the difficulty in getting their peers to agree to do the right thing,

will frustrate them and the best among them will eventually leave the project.

Unqualified PP's are a triple threat to the project. First, accurate forecasts of work effort and duration come from competent experienced PP's. Unqualified PP's can produce unworkable plans. Second, they cannot be relied upon to complete their tasks on time in a satisfactory manor. And third, as mentioned above, in sufficient concentration they will drive out good people.

RECOMMENDATION TO THE REPLACEMENT PM:
> If you are asked to take over such a project you must be given the authority to revisit both the plans and the staffing, and make whatever changes are necessary. You must be fully supported in this effort by the PS and PE. If these conditions are not met be prepared for a frustrating and unrewarding experience.

RECOMMENDATION TO THE PROJECT SPONSOR:
> Take great care in selecting a PE knowledgeable in the technology to be employed on the project, and one with a proven track record in project management.

6.   SITE/ORGANIZATION SELECTION

If the people selected to perform the project have little or no emotional or ego investment in the end product, their lack of commitment will add risk to the project.

A site or organization may have been a developer of computer hardware components when it is enlisted by the company to write word processing software. If the hardware mission was young and profitable the PT's may be very unhappy with the change. On the other hand, if the hardware mission was nearing the end of its useful life, and the PT's recognize that the survival of their site or organization depends upon their ability to adapt to the new mission, the opportunity may be met with great enthusiasm.

Quality work is done by people who care. Unmotivated workers add a significant element of risk.

RECOMMENDATION TO THE PM:
> Be sensitive to the aptitudes and motivation of ORG's and optimize fit.

RECOMMENDATION TO THE PE:
> Select sites/organizations whose people have a natural inclination toward the work they will do on this project.

7.   TOO MANY INVOLVED IN PRODUCT DESIGN

As the number of people involved in a creative task, such as the design of a product, increases the effect is similar to Amdahl's law of throughput for parallel processors. Figure 11 illustrates this phenomenon. The top half of Figure 11 shows 0 to 10 processors (or designers) on the horizontal scale, and 0 to 4 processors (or designers) equivalent throughput on the vertical scale. Following the curve notice that with one processor (designer) throughput is equivalent to one processor (designer). Two processors (designers) working together produce about 1.7 processors (designers) worth of throughput.
As the number of processors, or designers, working on the same problem increases, the advantage of adding more decreases exponentially. At 10 designers their throughput, or productivity, is equivalent to about 4 designers.

The bottom half of Figure 11 extends the processors/designers scale to 100 and the throughput scale to 6. From 30 to 100 processors throughput barely increases from 5 to 5.5.

The reason for the poor return on the investment of increasing designers, is that each designer must keep abreast of what the other designers are doing. If it takes 15% of a designer's time to stay in synch with one other designer, and there are 6 other designers, each designer spends 90% of his time communicating and 10% working on the problem. With 7 other designers nothing would get done.

RECOMMENDATION TO THE PM:
> Wherever creative activities are involved employ the fewest, fastest, smartest experts you can find.

8. MULTI-SITE PRODUCT DESIGN

Communication among designers, so significant in the previous discussion, is aggravated further by physical separation. It is almost impossible to create a coherent design in a reasonable amount of time when the designers are distributed across multiple sites.

RECOMMENDATION TO THE PE AND PM:
> Avoid assigning a shared design mission across multiple sites.

9. MORE FOCUS ON PROCESS THAN RESULTS

As a company's management shifts from the founding entrepreneur to the white-collar MBA, the founder's intimate knowledge of the operation within the context of its market gives way to managing by the numbers. Finance-oriented CEO's rely on the tools of the accountant such as the audit. They insist on having written policies, practices, standards and procedures in place describing in great detail every aspect of how to run their business. Each site and organization is expected to have a defined auditable process for everything they do. And they are periodically audited to ensure adherence to their processes. The manager of a site or organization which fails its audit is in serious trouble.

For routine business activities, such as billing or accounts receivable, in a stable environment audits help to ensure consistency of quality. However a project is not a routine stable environment. It is dynamic, defining and redefining its mission, plans, policies, practices, standards and procedures at any time to optimize results. The auditor's mission is to determine whether the project ORG's are following their Project Management Process document. They are not qualified to ascertain the health of the project.

The effect of auditing process is a double negative. First, managers become more concerned about passing their audits today than the integrity of the project whose outcome may not be known for months or years. Thus they pay less attention to the integrity of the project. If the project fails it cannot be because we didn't pass our audits.

THROUGHPUT AS NUMBER OF PROCESSORS OR DESIGNERS INCREASES
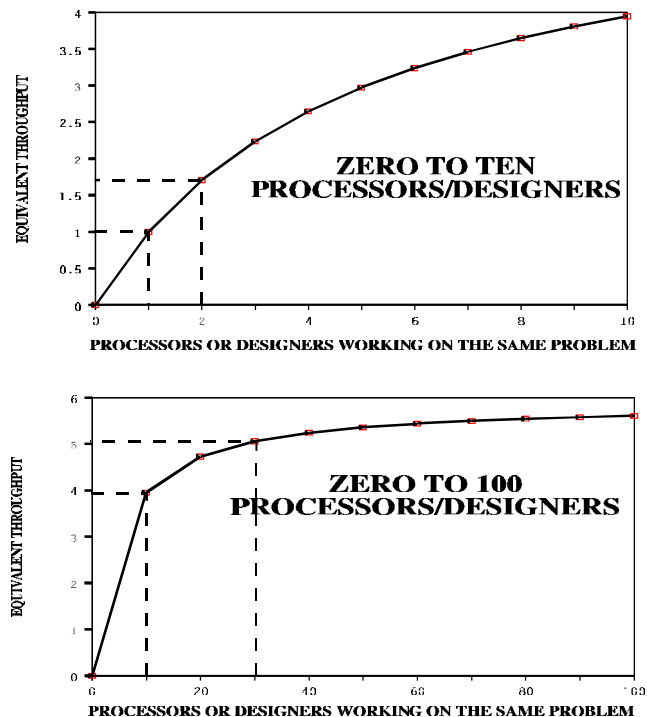

FIGURE 11

Second, MGR's will insist that their PT's follow a Project Management Process document regardless of how inflexible or irrelevant it is. Such documents are usually written by staff people years before who may have had some prior project management experience, but the fact that they had time to write such a document is an indication of their dispensability to their organizations' projects. Since that staff has long since moved on to other jobs the only way the document may be updated is for the project team to take time out to do it. But there is never enough time, and the team is forced to follow the existing document or suffer poor appraisals from their MGR's.

When the project fails executives are reluctant to blame the MGR's they selected. After all, they passed all their audits. Executives will find that either the process was flawed or the project teams did not follow the process rigidly enough. A task force will be created to study the problem and improve the process for next time, and to find new methods for ensuring that future project teams follow the process more closely.

RECOMMENDATION TO THE PM:
> If the project will be subject to serious frequent audits that produce the above effects, avoid it.

RECOMMENDATION TO THE PE:

> Ensure that the project is exempt from the audit process.

10. INSUFFICIENT RESOURCES

Even projects approved, budgeted, and under way are vulnerable to withdrawal of resources (money and/or people) at any time. This may stem from

a. A shift in business priorities or the direction of the organization,
b. Unexpected reversal of revenues resulting in budget changes, or
c. Miscalculation in the cost of the project.

The PM who is sensitive to his business environment will see "a" or "b" coming and try to avoid projects that will be vulnerable to such changes.

The PM has direct responsibility for "c". Projects that pass through an initial budget allocation based upon the high level executive plan must be reestimated when detailed plans become available. If the PM does not perform this reestimate and make sure the PS approves the budget, he runs the risk of overrunning allocated funds and possible cancellation.

RECOMMENDATION TO THE PM:

> Be sensitive enough to the business environment to see reversals coming, and avoid projects that will be vulnerable to those events. When detailed plans become available reestimate the project budget and get it approved by the PS.

RECOMMENDATION TO THE PE AND PS:

> Avoid projects that will be vulnerable to business reversals. Ensure financial support for the project when detailed plans and the final budget become available.

11. THE SACRIFICIAL LAMB

PM's are vulnerable to taking the blame for failed projects while others who refused to cooperate or would not support the PM go untouched. The signs that should warn the PM of the development of this situation include:

- The project is not going well,
- Participating ORG's and PT's are uncooperative and accuse the PM of making unreasonable demands, and
- The PE is unsupportive and difficult to communicate with.

The reasons for loss of support are usually found in some shortcoming on the part of participants or executives, and they have agreed to support one another at your expense. For example, suppose an ORG is scheduled to build a critical component and during implementation realizes that their original estimates for construction are much too low. The success of the entire project is affected by their misjudgment. Exposure of this information would be a serious embarrassment. And suppose the MGR of this ORG has a personal relationship with the PE.

The ORG becomes uncooperative, misreporting their progress information, reporting late or not at all. And their people become uncommunicative. It is impossible to get them to meetings to discuss their progress. The PE is unreachable or tells you that you are being too pushy.

At some point it will become obvious to the PM that the project is going to fail and he cannot prevent it. It will also become obvious that he is surrounded by people who will claim that he is difficult to work with, difficult to communicate with, too pushy, and thus to blame for the failure.

RECOMMENDATION TO THE PM:

> The PM can protect himself by drawing someone higher up the chain of command, above the PE, into the reporting circle. It must be someone who cares about the project, possibly the PS. This must be done indirectly. If the PM approaches the PS directly, accusing the PE and the ORG of mismanagement and conspiracy, a review will follow and the PM will find the higher level executives defending each other. On the other hand, if the PM merely starts to include the PS in the Weekly Status Report distribution, in which the problem is front page news, even if the PS never reads the report, the PE will fear that the PS may look into the situation and back off immediately. The PS may ask, "Is there a particular reason why you started to include me in the report distribution?" Your answer to that ques-

tion to anyone who asks is "Just to ensure good communications to all concerned parties." Never accuse anyone of anything. Let the facts speak.

PROJECT ADMINISTRATION

Project Administration provides the project's communication and control infrastructure. Its functions include plan building, gathering progress information, and reporting status to all affected parties. Without it schedule and budget control are impossible. The Project Administration function may be carried out by the PM on a very small project, but a large project requires a full time Project Administrator (PA).

There are significant advantages to centralizing the Project Administration function. Project managers and planners will no longer be required to become proficient in the use of a project management tool, reducing the number of tool licenses required and eliminating a significant training burden. Since many project managers prefer the doing rather than the planning associated with managing a project they are relieved to have the assistance of a skilled Project Administrator and their time will be used more effectively in other areas. The PA will have an aptitude for detailed analysis and become extremely proficient because of his continuous involvement in planning and use of the project management tool. He/she will become skilled in the art of drawing out from the project managers and planners all of the activities, resources, and dependencies associated with a plan. And all the plans he/she builds will contain the same formatting standards and the same terminology, eliminating the confusion usually associated with reading plans created by many different planners.

The PA sees the big picture view of the organization's resources, building all plans from a single resource pool and balancing those resources according to management's project priorities. Where projects depend upon each other for deliverables, the PA reconciles and connects those cross-project interdependencies. He/she becomes a focal point for understanding every project in the organization and how events or decisions affecting one project will affect the other projects' dates, resources, and costs.

Where progress reporting may have been flavored by a project manager's optimism, the PA has no such bias. Organization-wide reporting will simplify the project executive's job. A PAI-trained PA can summarize the status of all projects so the executive can identify the individuals at every level of the organization who can explain the sources of lateness.

The Project Administration Methodology can produce perfect schedule control. It is particularly well received by executives whose careers are affected by the outcome of their projects, and competent project managers and participants. Those accustomed to misjudging their estimates and slipping their commitments will be uncomfortable with this system.

The PA may be selected by the PM and PE but should report to the PE, not the PM. Unfortunately the PA function is often assigned to someone with no PA experience, inadequate knowledge of project management tools, and little understanding of the planning function or reporting needs of project personnel. This results in practices that undermine rather than support the project. The following are some of the most common Project Administration pitfalls that are easily recognized and corrected. They are divided into three categories: PLANNING, REPORTING, and PHILOSOPHY.

PLANNING

1.   Too Much Time Spent Evaluating Which PM Tool to Use

If the Project Administrator is not able to make the tool decision quickly (less than two weeks) he is the wrong person for the job.

I have seen the person hired for the PA job take up to six months purchasing and evaluating every tool on the market before reaching a conclusion. His final evaluation would consist of tables comparing tool features based upon reading the manual and his own brief tests.

Tools cannot be realistically assessed via comparison tables built from manuals and testing outside the context of a project. For example, one tool may be extremely function rich and flexible, but it takes the user a long time to understand how to use it and he can never achieve real proficiency. Another tool may handle very large projects, but may perform too slowly. A third tool may provide tremendous flexibility in reporting, with elegant graphics and sophisticated professional output, but it takes a rocket scientist to input the project data properly, or it may not handle some data that is critical.

One needs hands on familiarity in real project situations where the tool can show its strengths and weaknesses. The PA who requires a tool comparison study, once he chooses his tool, will not be familiar enough with its use to serve the project effectively. And he may find that

features he didn't consider important in his evaluation, have suddenly become show stoppers on his real project. He should be an apprentice to an experienced PA.

An experienced PA knows his tools, will choose the right tool immediately, and be ready to build project plans within a week or two of his hiring.

RECOMMENDATION TO THE PE AND PM:
  Find a PA who knows his tools and can use them in a real project environment. If the PA you have needs extended tool study time, find a replacement

2.   Top Down Planning

At project conception time the project executives define the high level activities and schedule to meet their required end date with little or no Project Participant (PP) input.

This is acceptable when no Project Teams (PT's) are yet assigned to the project and a first cut plan is needed for initial budgeting. But before the project can execute, PT input is needed to provide the technical detail to the project plan. Without it
-    The schedule is likely to be unrealistic,
-    PT's, looking at a high level plan, won't know what tasks to perform on a daily basis, and
-    The PT's will not have committed themselves to "their" plan.

RECOMMENDATION TO THE PA, PM, AND PE:
  Once the participating ORG's are selected ensure that the PA builds a detailed project plan using input from the PT's.

3.   Group Planning

One common practice is to build the project plan in a meeting of key managers and participants. This way it will represent all relevant input.

For one or two-PT projects this technique may yield some benefit. But multiple PT projects will produce meetings that are large, difficult to control, and dominated by the most vocal and aggressive participants. Thoughtful discussion tends to be stifled.

A far more effective technique is for the PA to interview a planning representative from each PT, one on one. Using a PM tool during the interview the PA will be able to capture that planner's vision of the tasks to be done.

When all PT representatives have been interviewed, the PA can piece together the complete plan. The PT's either agree or disagree that this is their plan. If they disagree, the PA makes the requested changes. When they agree, they have committed to their plan.

RECOMMENDATION TO THE PA, PM, AND PE:
  The PA should build detailed project plans in one on one interviews with PT representatives.

4.   Too little Detail in the Plan

Some believe that only high level tasks should be identified on a project plan. Too much detail is confusing to PT's and to management, and there is no need to spell everything out. Participating ORG's and their PT's will fill in the details on their own as they work.

To achieve schedule control PT's must know what they should be doing at every point in time and be able to adjust their work rate accordingly. Suppose your project is building a house. A high level task could be "Install Bathroom" and it could take five weeks. If it appears as five one week steps (1-Order fixtures, 2-Install Pipe, 3-Install Wiring, 4-Install Fixtures, 5-Tile & Paint), at the end of week two the fixtures are on order and the pipe should have been installed. If not one can take steps to get back on schedule. As a single high level task (Install Bathroom) you may suspect you're behind somewhere in the middle, but where should you be? And how do you know when you're back on schedule?

RECOMMENDATION TO THE PA, PM, AND PE:
  Detailed project plans should be constructed with no task longer than a week. And progress should be monitored and status reported weekly.

5.   Detailed planning is delegated to each participating organization and not centrally coordinated

One project management approach is for each ORG to have its own PA doing its detailed planning and reporting, and a central administration function only be concerned with a high level view of the project. Central administration would periodically collect status information from participating ORG's and produce a high level status report for management.

Under this arrangement:
a.   Each ORG must provide a PA with all of the skills already mentioned.

b.   The PA for each ORG must agree to use the same PM tool, or it will become extremely difficult to meaningfully summarize project wide status information.

c.   The PA for each ORG must agree to the same terminology, formatting, and planning standards so that the plans are consistent, comprehensible to others, and can be summarized for high level reporting.

d.   An ORG, building and managing its own plan, will be tempted to withhold information which would make its progress look bad. The entire project becomes vulnerable to surprises.

e.   Because no single individual is coordinating all project planning details, there is a much greater possibility that inter organizational dependencies will be overlooked.

f.   Because the PA for each ORG will not be needed full time, he is not likely to be as skilled as one who does the PA job full time.

In summary, the manpower overhead of each ORG is increased by having to supply a PA. And project risk is increased because of the communication overhead to keep all PA's and their plans synchronized, and because of the possibility that information may be withheld.

RECOMMENDATION TO THE PA, PM, AND PE:
        Have a single PA handle the entire project.

6.   Project Teams Keep the Details of their Plans Secret

The PT doesn't want others to know how far behind they are, and believes they can make up their lateness quietly on their own. This is unfortunate for other PT's whose plans depend on the first PT's completion dates.

This practice is found in organization cultures where competition and winning are valued over teamwork, where a team is penalized for falling behind rather than helped. It is a management problem, not a project team problem.

Properly implemented Project Administration can reduce this effect to a minimum by following recommendation 5, "Have a single PA handle the entire project." If PT's don't administer their own plans it is much more difficult for them to hide information. A central PA will catch all PT plan interdependencies. When a lagging team has not completed a task that another PT depends upon, the receiving team will let the PA know that the first team is causing their delay.

Management can do much to reverse this problem by practicing "No-Fault Project Management." This means that they recognize that lateness in a plan is not an indication of team incompetence, but rather a focal point for information about something amiss somewhere that needs to be corrected. I have found in my own experience that lateness is always caused by circumstance unrelated to the competence of the PT, ie. a late supplier, unexpected electrical outage, someone got sick, etc.

RECOMMENDATION TO THE PA, PM, AND PE:
        Have a single PA handle the entire project, shift the culture from competition to teamwork, and let people know you practice "No-Fault Project Management."

STATUS REPORTING

7.   No Status Reporting

Some managers believe that project management is just building plans. They are unaware of the importance of feedback in the form of status reports once the project is under way. Feedback is an essential ingredient of any process control system. Without feedback one cannot correct the process when it deviates from specifications. On a project with no status reports each PT knows when they are behind, but they don't know if PT's they depend on are behind. Higher level MGR's may know, if they are very vigilant, but it is common for upper levels to operate on an exception basis, waiting for an emergency before taking action.

With upper management unaware of the weekly status of the project, PT's will be less vigilant towards slippage. When slippage gets out of control, and upper management's influence is needed to clear obstacles, PT's will be reluctant to call for help because it may expose their lack of attentiveness to the schedule. This project is behind at every status meeting and the MGR's are unable to control it.

RECOMMENDATION TO THE PA, PM, AND PE:
        Recognize the importance of the feedback mechanism and ensure that a PA is in place that keeps everyone from the PE down informed of the weekly status of the project. All tasks that are missing their dates should be highlighted.

8.   Status Reporting is not useful to the Project Teams or Executive

If your management team is having difficulty controlling the project schedule, the reports they get may be useless. Useless reports produce the same effect as number 7, No Status Reports. A number of popular reports fit into the category of "Nice to know but I can't use the information to control my project." For example:

-   Percent complete of the entire project.
-   Work effort to date versus how much should have been done by now.
-   Tasks planned to be started versus tasks actually started, tasks planned to be completed versus tasks actually completed.
-   Number of late tasks.
-   Amount spent against budget.

The PA should produce a status report package each week that satisfies all levels of personnel associated with the project from the PE down to the PP's. This way everybody knows the PE can see their status, even though he may never look at the details. The report should contain four sections:

-   A PE Executive Summary containing a brief numeric summary of project lateness and a recommendation of PE actions, if required, to correct the situation.
-   Summary of Lateness by Plan should identify what plans are late and how late.
-   Summary of Lateness by Organization summarizes who owns the lateness at every level of the hierarchy.
-   Detailed Gantt plans showing each late task with its numeric lateness status in the context of its plan. Any reader of the report should be able to see how the late tasks contribute to the numbers in the summaries.

The Summary of Lateness by Organization summarizes who owns the lateness at every level of the hierarchy. For example, if a second line MGR has three PT's participating in the project, his lateness is the sum of the lateness of all three. A third line manager may have two second line MGR's, each with three PT's. The third line's status is the sum of the lateness of all his second lines' PT's. Each manager's lateness is the sum of the lateness of the ORG's under them.

The PE owns the entire project's lateness. He will look at the Summary of Lateness by Organization and call the MGR with the highest percentage of this week's lateness. One call by the PE each week based upon this report will keep all ORG's extremely responsive and sensitive to lateness.

RECOMMENDATION TO THE PA, PM, AND PE:

Ensure that reports are produced that keep all participants informed and sensitive to lateness.

9.   Status Reports are Too Infrequent

The time span between project status reports defines the limit of how responsive the PT's and management can be to slippage. If reporting is once a month you may find that a task that should have completed three weeks ago is still incomplete. The PT's opportunity and motivation to respond takes place three weeks after the task became late. If reporting were once a week, the PT and others would know at the end of the first week that the task was behind and all could respond three weeks earlier.

The weekly reporting guideline has a corollary: No task on the plan should be longer than a week (five business days). This ensures that any task that is under way more than one reporting period is known to be behind schedule. All long running tasks should be subdivided into tasks of less than or equal to one week. It is recognized that some activities do not lend themselves to subdivision. For example; "Monitor Reactor Temperature" over a 6 week period has no intermediate completed steps that could serve as weekly checkpoints.

Lateness has a multiplying affect. A single late task, with dependencies, will cause all its dependencies to slip. If the dependencies have other tasks dependent upon them, several late tasks, unchecked for several weeks, can produce an unrecoverable situation.

RECOMMENDATION TO THE PA, PM, AND PE:

Ensure that status reporting is weekly, and that the PT's provide progress information to support weekly reporting.

10.   Status Reports not Available to All Participants

Selective reporting has several disadvantages, depending upon who is omitted.

-   If the PE is omitted he will not be able to bring his influence to bear to help correct situations and clear obstacles.
-   If the PT managers are omitted they will not be able to assist the PT's in adjusting resource commitments when needed to catch up on late tasks.
-   If the upper level ORG managers are omitted they will not be able to help re balance workload among PT's to meet unforeseen conditions and lateness.

-   If the PP's are omitted they will not have a sense of inclusion or a good appreciation for how their activities and lateness affect the rest of the project.
-   Anyone who is omitted may feel resentful and perform at sub optimal levels.

RECOMMENDATION TO THE PA, PM, AND PE:
    Ensure that weekly status reporting is distributed to everyone from the PE down to the PP's.

11.   Status Reports not Accurate

Inaccurate reporting endangers the survival of the Project Administration function.

-   Errors showing tasks late that are really on time will infuriate PT's and the management chain above them. They will use such incidents to convince the PE that the reporting system is flawed and should be ignored or abandoned.
-   Errors showing tasks on time that are late rob everyone of the opportunity to take timely corrective action. This could result in future unrecoverable lateness.
-   Frequent errors will reduce the credibility of the system to the point where it will be ignored or abandoned.

A well functioning Project Administration system feels like an overseer to less competent participating ORG's. They will accept it if the PE insists, but will welcome the opportunity to demonstrate its shortcomings as justification for abandoning it. The PA must take special care to ensure accuracy at all times.

RECOMMENDATION TO THE PA, PM, AND PE:
    Take every precaution to ensure accurate status reporting. If errors occur do not be swayed by pressures from participating ORG's to drop the PA system. Take steps to ensure that errors do not recur.

PHILOSOPHY

12.   Labor Accounting Confused with Project Management

The accountant needs to know a PP worked 2 days on a 4 day task, but the PM needs to know if the task is 50% complete. The PM cannot assume that if the PP did 2 days of work the task is 50% complete. The task may be 25% complete, in which case the PM can calculate that, if no corrective action is taken, the task will take 8 days in-

stead of 4. Or the task may be 100% complete, in which case the PM can assign the PP to help elsewhere if needed, and any dependent tasks may now be started.

RECOMMENDATION TO THE PA, PM, AND PE:
    Use progress gathering information for two different management purposes:
    -   Manage the schedule using percent complete and date complete for each task.
    -   Manage expenses using days worked on each task.

13.   Tracking versus Control

Terms used by PE's, PM's, PA's, and MGR's reveal what they expect from a project management process. Those who believe they are doing "Project Tracking" have different expectations that those who believe they are doing "Project Control."

Tracking is done on storms and enemy vessels. One attempts to predict where it is going based upon where it has been.

Control is imposed upon something you own, a piece of machinery like your car, or one's life. One leaves as little as possible to chance.

Tracking is passive, control is active.

Tracking oriented managers see a task falling behind and will use their project management tools to predict the new expected completion date for the task. And they will revise the rest of the project plan based on the new dates of the late task's dependencies.

Control oriented managers who see a task falling behind will use their project management tools to identify what can be done to get back on schedule. Only when every possible avenue of correction has been exhausted will a control oriented manager consider revising the schedule. A properly implemented Project Administration system controls schedules and costs.

RECOMMENDATION TO THE PA, PM, AND PE:
    Ensure that the "Control" oriented culture predominates.

SUMMARY

Leadership and project management disciplines and skills are well known and acknowledged prerequisites for pro-

ject success. In a healthy organization they will suffice. One begins to see the cultural characteristics and practices described in this paper as the quality of upper management of an organization deteriorates.

This paper has been an attempt to tabulate some of the more pervasive organizational, cultural, and administra-tive challenges facing modern project management personnel in a less than ideal environment. The healthier the organization, the less likely the situations outlined in this paper will be encountered and its recommendations needed.

SUMMARY OF ORGANIZATIONAL, CULTURAL, AND ADMINISTRATIVE FACTORS

PROJECT ORGANIZATION STRUCTURES
1. 1PT - PM/MGR OVER PP's.
2. 1PT - PM PEER WITH PP's.
3. MULTI-ORG's UNDER PM/MGR.
4. MULTI-ORG - PM PEER WITH ORG's.
5. MULTI-ORG - PO PEER WITH ORG's.
6. MULTI-ORG - PM WITHIN ORG.
7. MULTI-ORG - PE PEER WITH ORG's.
8. MULTI-ORG - PE PEER WITH ORG's, PM WITHIN PO.

PEOPLE/POLITICAL CULTURE CHECKLIST
1. NO ONE IN CHARGE
2. RESPONSIBILITY WITHOUT AUTHORITY
3. CONFLICT OF INTEREST
4. LACK OF ACCOUNTABILITY
5. EXECUTIVES, MANAGERS, AND PROJECT TEAMS LACK QUALIFICATIONS
6. SITE/ORGANIZATION SELECTION
7. TOO MANY INVOLVED IN PRODUCT DESIGN
8. MULTI-SITE PRODUCT DESIGN
9. MORE FOCUS ON PROCESS THAN RESULTS

10. INSUFFICIENT RESOURCES
11. THE SACRIFICIAL LAMB

PROJECT ADMINISTRATION CHECKLIST
PLANNING
1. Too Much Time Spent Evaluating Which PM Tool to Use
2. Top Down Planning
3. Group Planning
4. Too little Detail in the Plan
5. Detailed planning is delegated to each participating organization and not centrally coordinated
6. Project Teams (PT's) Keep the Details of their Plans Secret

STATUS REPORTING
7. No Status Reporting
8. Status Reporting is not useful to the Project Teams (PT's) or Executive (PE)
9. Status Reports are Too Infrequent
10. Status Reports not Available to All Participants
11. Status Reports not Accurate
PHILOSOPHY
12. Labor Accounting Confused with Project Management
13. Tracking versus Control

GLOSSARY

Manager (MGR) is in charge of an Organization (ORG) possessing hire/fire authority over its personnel.

Organization (ORG) may be a single Manager (MGR) and his people, some of which may be part of a Project Team (PT), or it may be a MGR supervising a management hierarchy at the bottom of which are MGR's supervising people, some of which may be part of a Project Team (PT). An ORG could be an entire company. See Figure 9.

Progress Gathering/Reporting is the process whereby information is gathered by the Project Administrator (PA), or reported to the PA, from the PT's describing their progress against assigned tasks for a reporting period, usually the previous week.

Project Administration provides the project's primary communication, coordination, and feedback vehicle via plan building, progress gathering/reporting, and status reporting. Without it schedule and budget control are impossible.

Project Administrator (PA) performs the Project Administration function.

Project Executive (PE) is the executive or government official who has been designated by the Project Sponsor (PS) to make the project happen. His career is tied to project success, and he may be enlisted to use his influence to help the project succeed.

Project Management Body of Knowledge (PMBOK) are the topics, subject areas, and intellectual processes which are involved in the application of sound management principles to the collective execution of any type of project.

Project Management Institute (PMI) is a world-wide non-profit organization dedicated to advancing the state-of-the-art in the profession of project management.

Project Manager (PM) is the person who is responsible for ensuring that all necessary activities take place to meet project objectives on time and within budget.

Project Manager/Manager (PM/MGR) is the person responsible for ensuring that all necessary activities take place to meet project objectives on time and within budget. He also has hire/fire/appraisal responsibility for those under him.

Project Office (PO) An ORG run by a Project Office Manager (POM), and usually employing the PM, the PA, and other administrative personnel that support the project.

Project Office Manager (POM) The MGR of a PO. The PM, PA, and other project staff personnel report to the POM.

Project Participants (PP's) are individuals working on a Project Team (PT) that carry out the project activities.

Project Sponsor (PS) is the executive or official who sponsors and funds the project. He selects the PE, and ensures support for the project at high levels in the organization both politically and economically.

Project Team (PT) consists of a group of PP's and their MGR. A PT is a single level ORG.

Resources Money, materials, supplies, and/or people.

Status Reporting is usually provided by the PA to all interested parties associated with the project. It describes where the project is with respect to where it should be on the report date. The information presented enables all viewers to understand which tasks are behind, by how much, what they will affect, and what can be done to maintain the original schedule.