

ESA and All That

A serious, but somewhat irreverent look at
the knowledge framework in project management

By R. Max Wideman

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Except for the Foreword, it has been modified only to the extent necessary
to make it suitable for web publication.*

Foreword

This article is reproduced for those who are interested in the origin of the Project Management Institute's Project Management Body of Knowledge, now affectionately known as "pimbok" ("PMBOK").

"ESA" stands for "Ethics, Standards and Accreditation", a report originally prepared back in 1982 by the late Matt Parry, Past-president of the Project Management Institute, and his team of thirty-plus volunteers. His report set out recommendations for these three arms of a professional organization. At that time there were only six management topics: Human Resources; Cost; Time; Communication; Scope; and Quality. It is interesting to note that this report correctly referred to these six topics as "Functions", consistent with the term used for similar corporate management functional responsibilities. In the Institute's current documents, these are now referred to merely as "knowledge areas."

By 1984, I felt that it was time to bring more order and content to the body of knowledge. You will see that I added Procurement Management to the list. In a Special Summer Issue of the Project Management Journal August in 1986, the late Linn Stuckenbruck added a further section entitled "Project Management Framework". Interestingly, Risk Management was not included until I persuaded the Institute's Board to include this topic in "The Revised PMBOK" distributed to all members in September, 1988 — which is why I wrote the Institute's "Project and Program Risk Management" handbook to go with it.

I should mention that the version of the Project Management Body of Knowledge published by the Project Management Institute in 1987 included many additions and improvements to the charts included with this paper. Nevertheless, readers may reflect today on how far we have advanced since then, — or regressed, depending on your perspective!

Introduction

It all started because of a quite successful seminar on project management held in Saudi Arabia. The small but elite group of project managers came from various Islamic countries. As seminar leader, I was responsible for coordinating and orchestrating the presentation of my team of six lecturers each of whom is expert in one or more aspects of managing capital projects. The seminar lasted for ten exhausting but very satisfying days, and in ten days one can cover quite a lot of ground.

Anyway, the seminar left me with a whole new pile of reference material and overhead transparencies to be added to my existing heap of reference material all carefully sorted in almost random order. The time had come, I told myself, to sort this lot out for ease of future reference. But how? On what basis? Aha! I said to myself (I always say Aha when the germ of an idea flits across the distant horizon - it sort of sets the tone for creative thinking) . Aha! I said, the PMI Ethics, Standards and Accreditation (ESA) Management Group's framework of six standard functions and, their respective breakdowns should prove ideal.

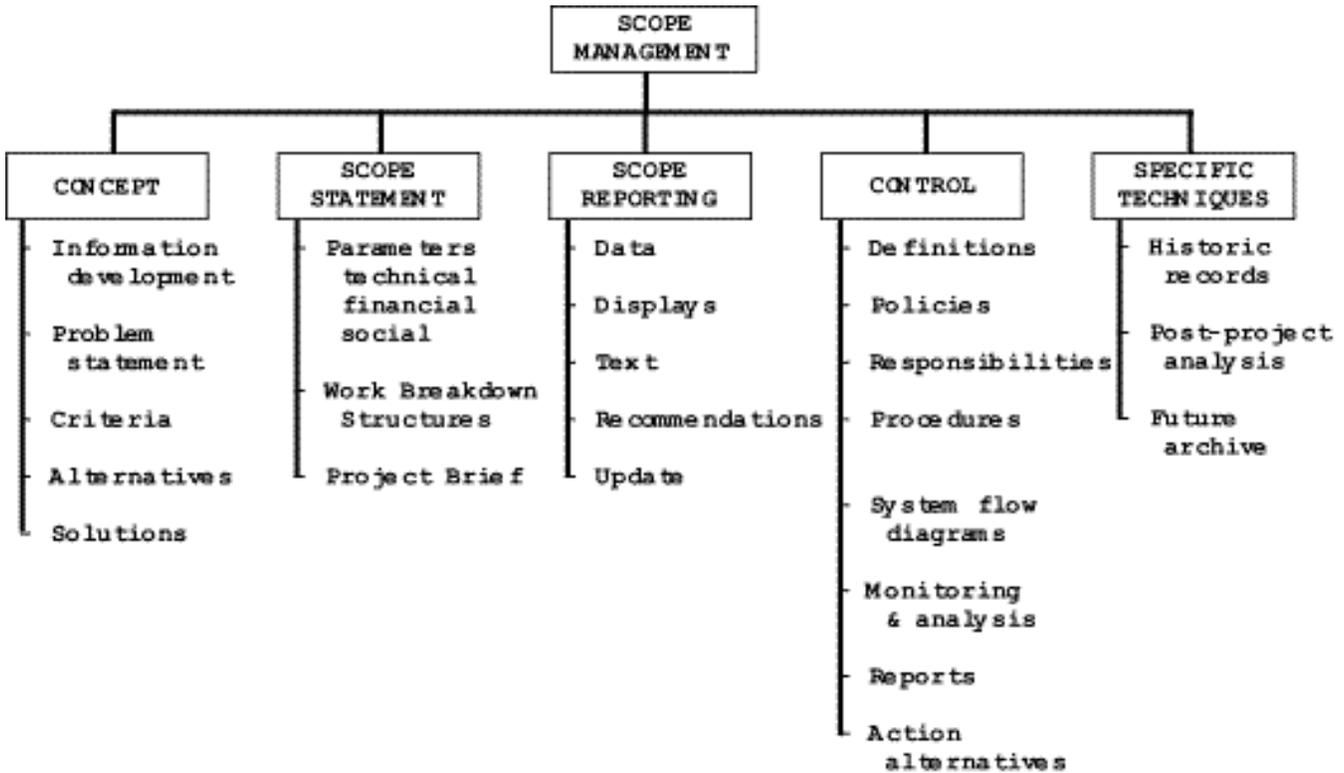


Figure 1

But having solved the classification problem, how would I store and recall them for future use? Should they be regrouped thus breaking their present often repetitive sequences painstakingly put together for numerous different presentation purposes? Aha! I said to myself a second time (a somewhat unusual event I might add) why not use the classifying, sorting and recall capability of one of my micro computer programs? After all it would only take (my wife) about 10 hours of hard work to enter all the necessary coding and data. Coding? Well that's a systems problem and my wife specializes in that sort of thing.

An attempt at simplicity

That 's when things began to get interesting. The restraints of the operating system. had to be properly understood and it took nearly two days of discussion just to agree on the precise principles to be followed in order for the program to operate satisfactorily. The information spectrum also had to be clarified but a brief review soon showed that much of the material would simply not fall neatly into any one ESA slot. Rather, subjects presented would cover several ESA areas to a greater or lesser degree, thus necessitating the identification of a primary theme and secondary themes in each case.

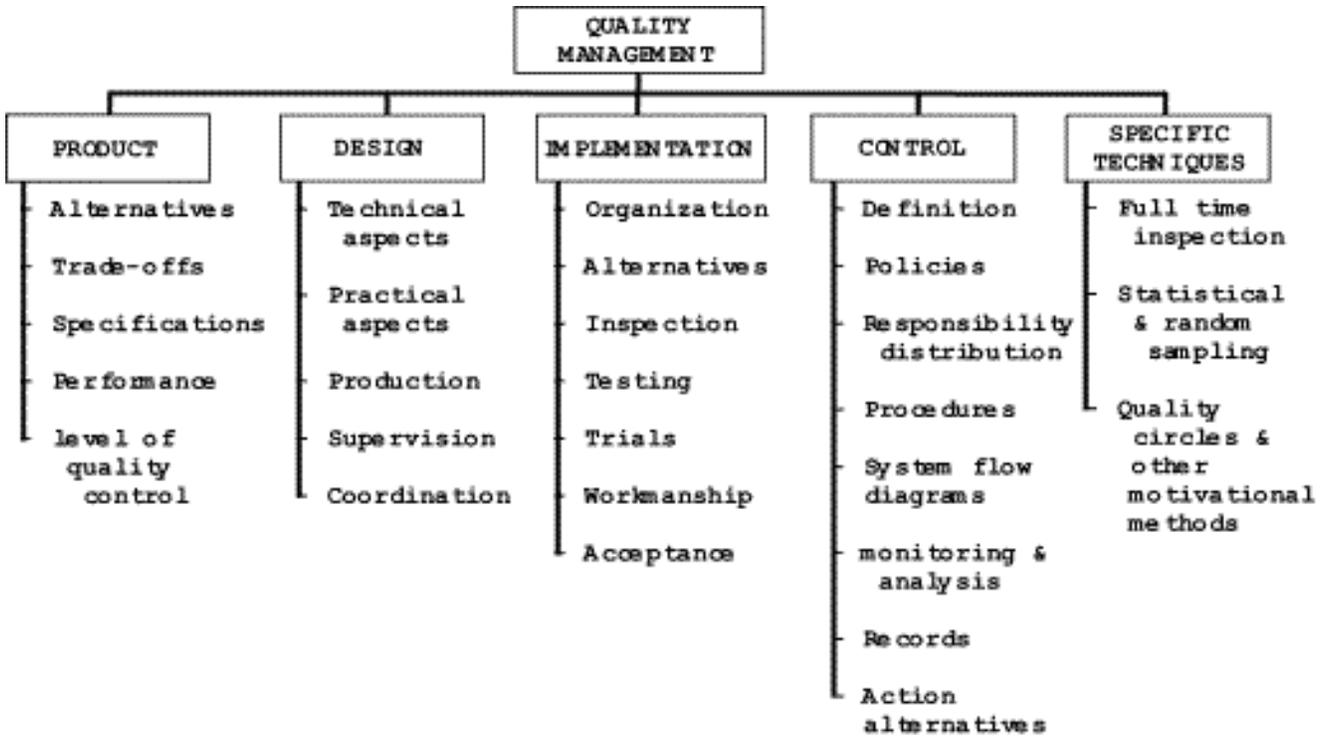


Figure 2
The practices of Scope and Quality: project objectives [RMW 1985]

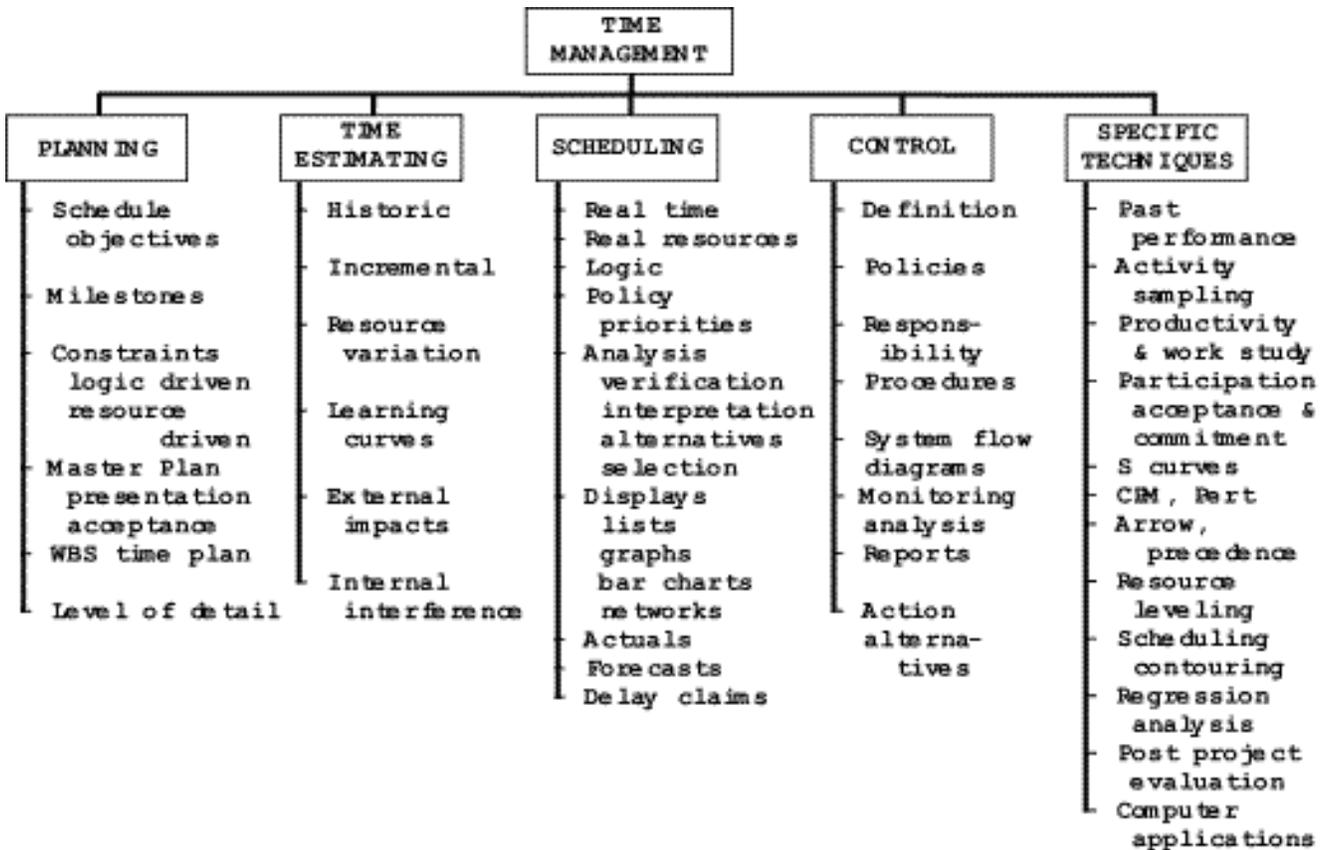


Figure 3

Systems people always seem to insist on being systematic - probably not a bad idea when you come to think of it, so a simple three step approach was adopted. I always like simple steps because it saves the embarrassment of having to explain that I don't understand what I'm doing. Besides, who wants to waste time making things unnecessarily complicated? (Please don't all shout at once.)

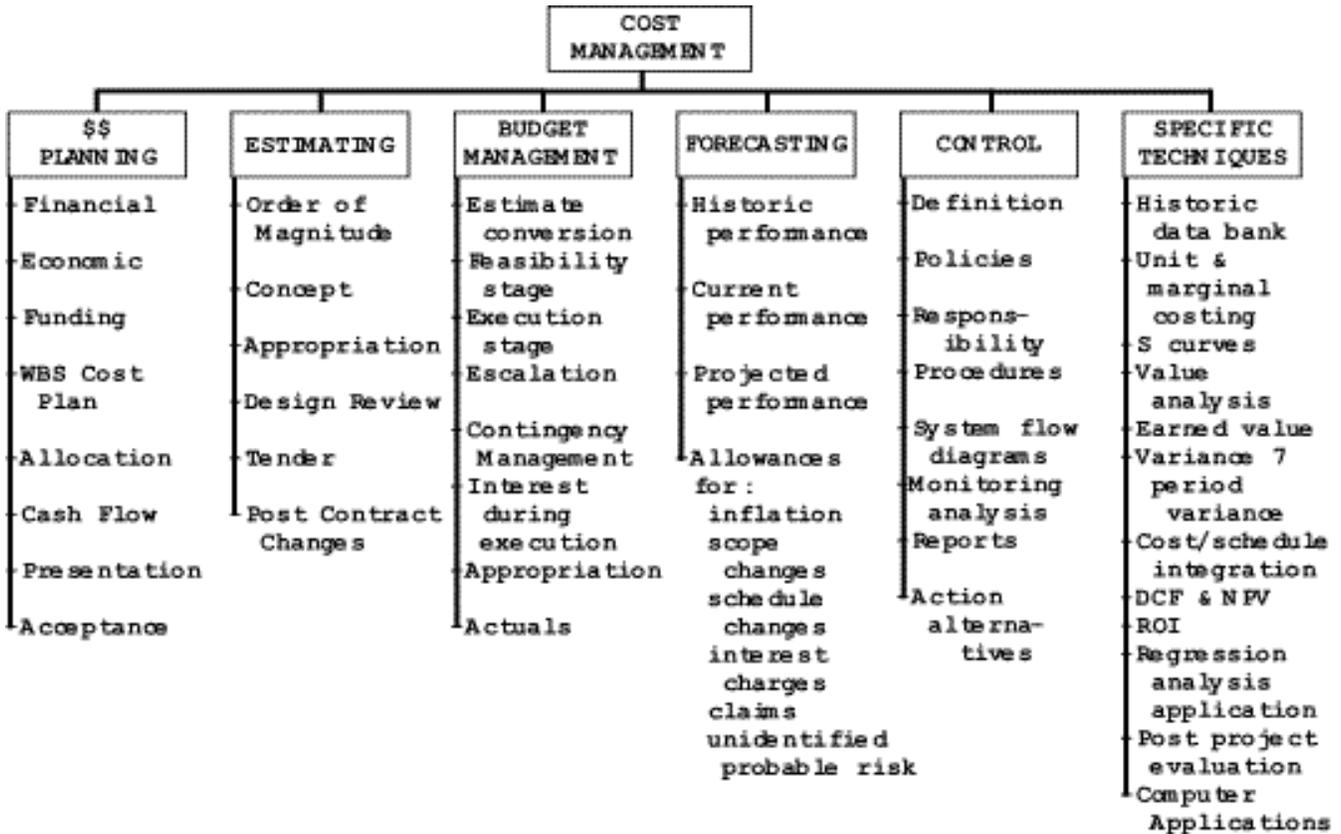


Figure 4

The practices of Time and Cost: project constraints [RMW 1985]

Anyway, Step One would be to do a run through all the material to list each subject encountered (irrespective of ESA), the intent being to define very precisely the scope of each subject by identifying the various ideas presented. Hopefully, these could be assembled or reassembled into a hierarchy which would resemble the ESA body of knowledge breakdown structure.

Step Two would be to establish a coding for the hierarchy, with a corresponding reference key.

Step Three would be to clean off all the old numbering from each transparency, lecture note or reference abstract, renumber from 1 upwards, and start coding.

Problems appeared early

The problems started with Step One. There seemed to be so many subject areas just not identified within the present ESA. Where, for example, does one find definitions of project management terms like project and management? Or where does one place a discussion of project management environment, or the process of control, or the procurement function or an analysis of project risks? Again, the application to project management of Pareto's Law of Distribution, or success/failure factors in project management - where do these belong?

Still other subjects appeared to be fairly obvious, yet nonetheless not specifically identified within the current ESA publication. The development of a Work Breakdown Structure, and the precise rules which must govern an effective structure are surely part of Scope Management? Management of contingency allowance and value engineering are clearly part of Cost Management, while negotiating is no doubt part of Communication Management. But is it a major division or a subset of Personal Skills?

In all this it occurred to me that what the ESA Management Group had boldly and successfully identified was a conceptual framework for the body of knowledge of project management. Concept by definition infers development in a "top down" fashion. This is akin to the estimator who in the concept stage of a project develops an "Order of Magnitude" estimate "top down" .

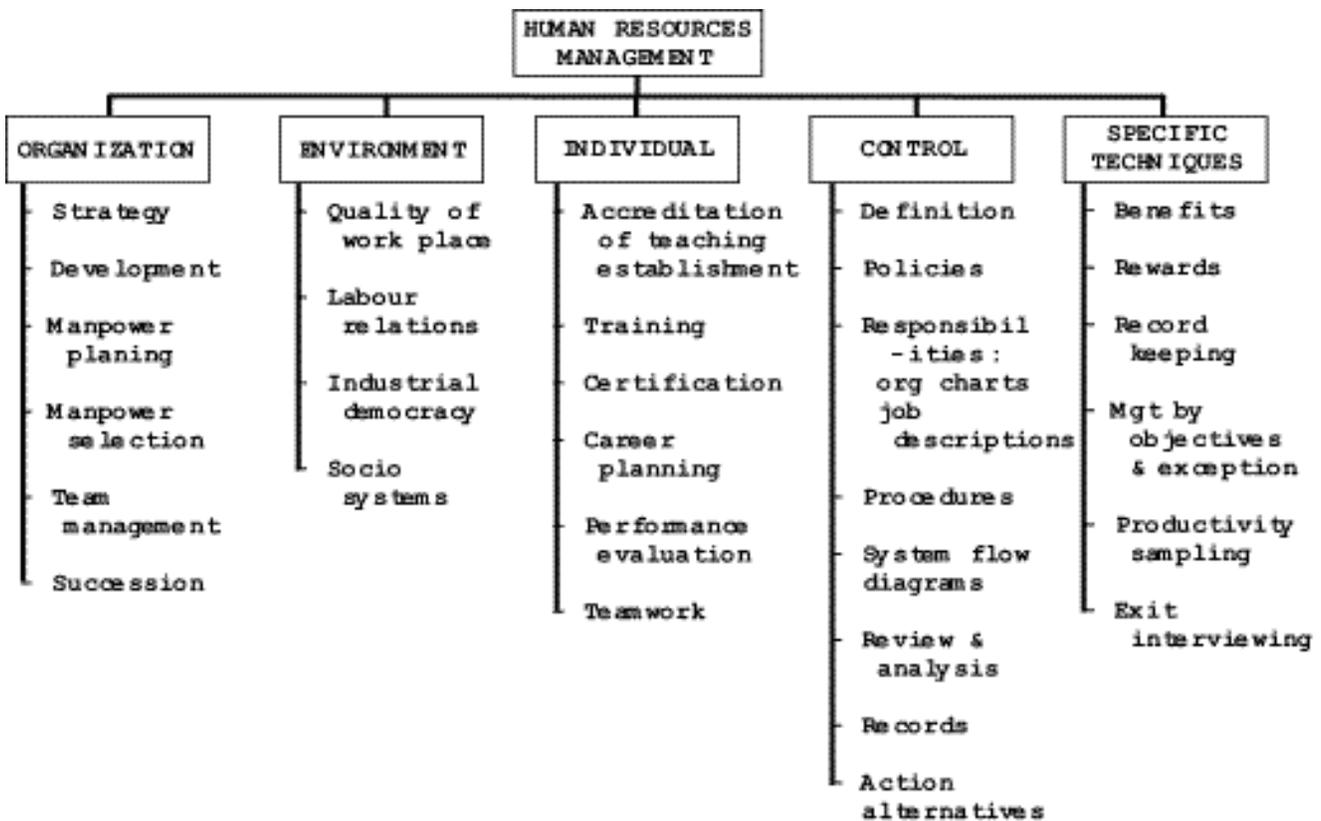


Figure 5

What I had on my hands, however, was a whole lot of scattered bits of information at the detail level. Like the estimator developing a fixed price tender estimate, with all the detail at hand, I was endeavoring to put it together "bottom up". Quite a useful exercise I thought to myself.

What I was trying to do was to look at the ESA breakdown from the point of view of classifying my material for teaching purposes, albeit industry specific project management. Since education is the backbone for advancing any profession, surely someone else must have done this before? Yet so far no one has come forward with positive recommendations for enhancing the ESA work to date.

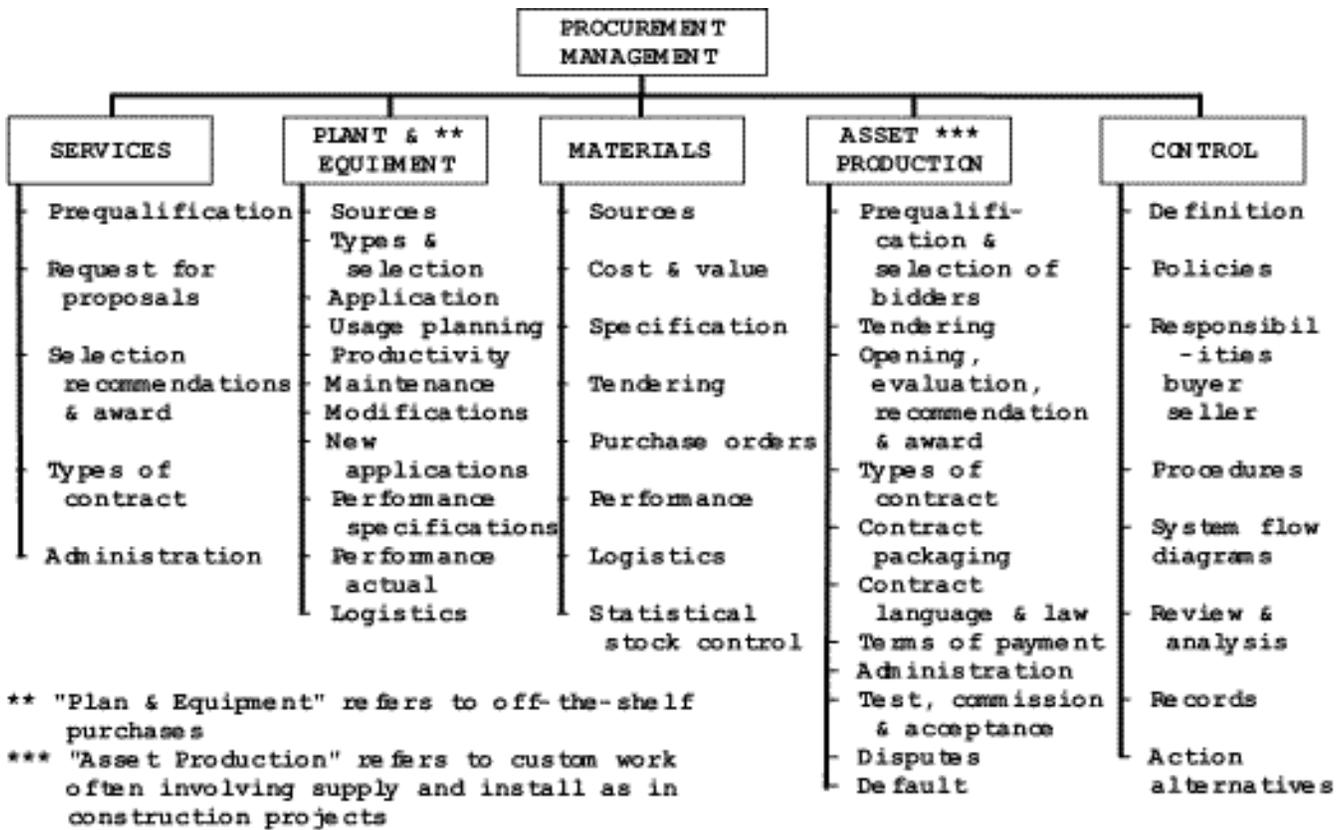


Figure 6

The practices of Human Resources and Procurement: project facilitation [RMW 1985]

Overlapping content

In classifying my material, some overlap between ESA functions was to be expected. For example, the coding of the work breakdown structure, which represents the Scope of work, is essentially a Communication device. Similarly, contingency management as part of Cost Management also includes contingency planning i.e. "Planning Alternatives" under Time Management. However, as the exercise advanced, another interesting aspect began to emerge.

I observed that certain key words appear in several ESA Management Functions. For instance, Scope, as well as being an ESA management function itself also appears in Cost and Time Management. Procedures appear in Cost, Time and Communications Management. Yet Quality Management which is just jam packed with procedures, doesn't give the word a mention. Policies on the other hand appears in Human Resources, Time and Scope Management. Funny thing, I was always taught that you couldn't establish an effective procedure without enunciating a governing policy. Conversely, a policy is useless without a procedure to implement it!

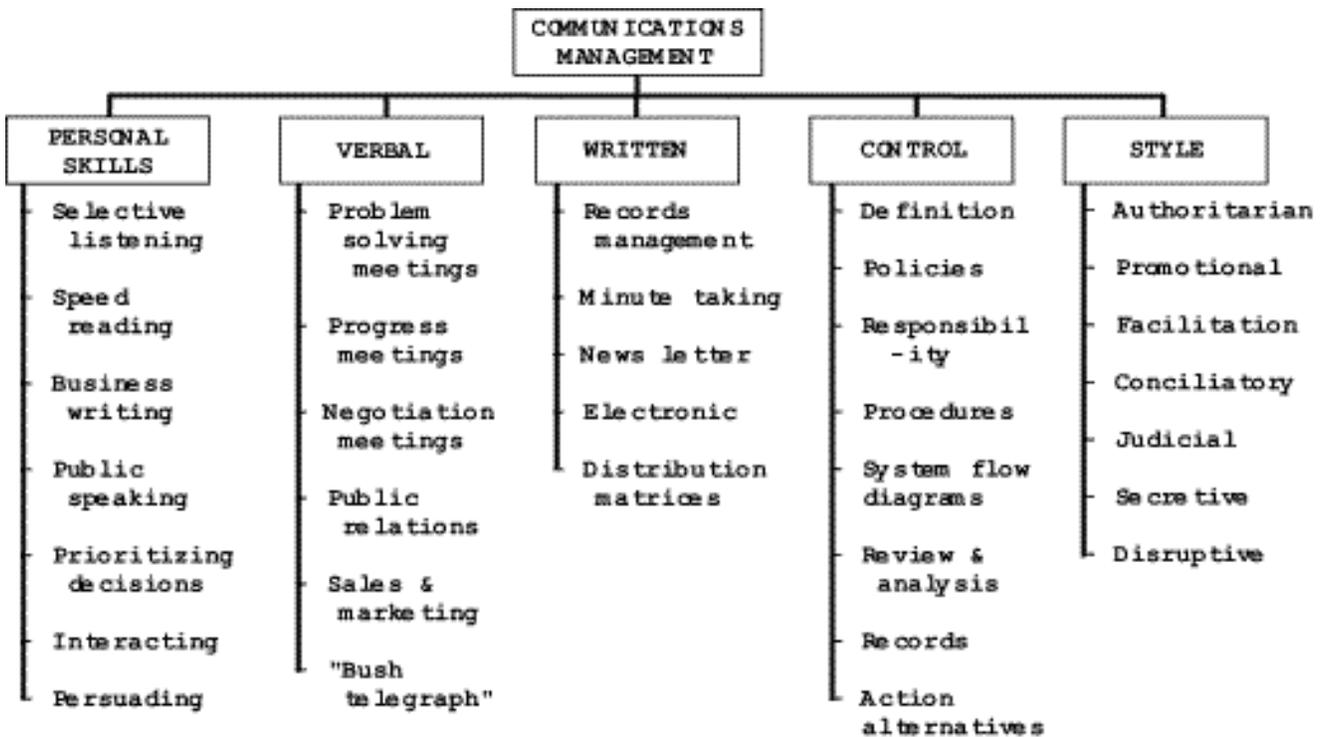


Figure 7

The practice of Communications: project facilitation [RMW 1985]

Monitor and Control appear as major subsets of both Cost and Time Management but only Monitor appears under Scope Management. Yet controlling scope is the single most important factor in avoiding undesirable cost and schedule overruns.

What all these particular words have in common is that they are all part of the *process* of good management. That is to say they are distinct from specific functional content. Since ESA is concerned with the management of a number of functions, it follows that each of these processes applies to all functions.

In short, the systemized project management process of plan-organize-execute-monitor-and-control applies to each and every ESA function.

A new section added

Now where would the material on this vital and fundamental subject best belong in order to give it proper emphasis and avoid needless repetition? For that matter, where does one place a discussion of project management concepts described in the context of, but distinct from, classical management theory?

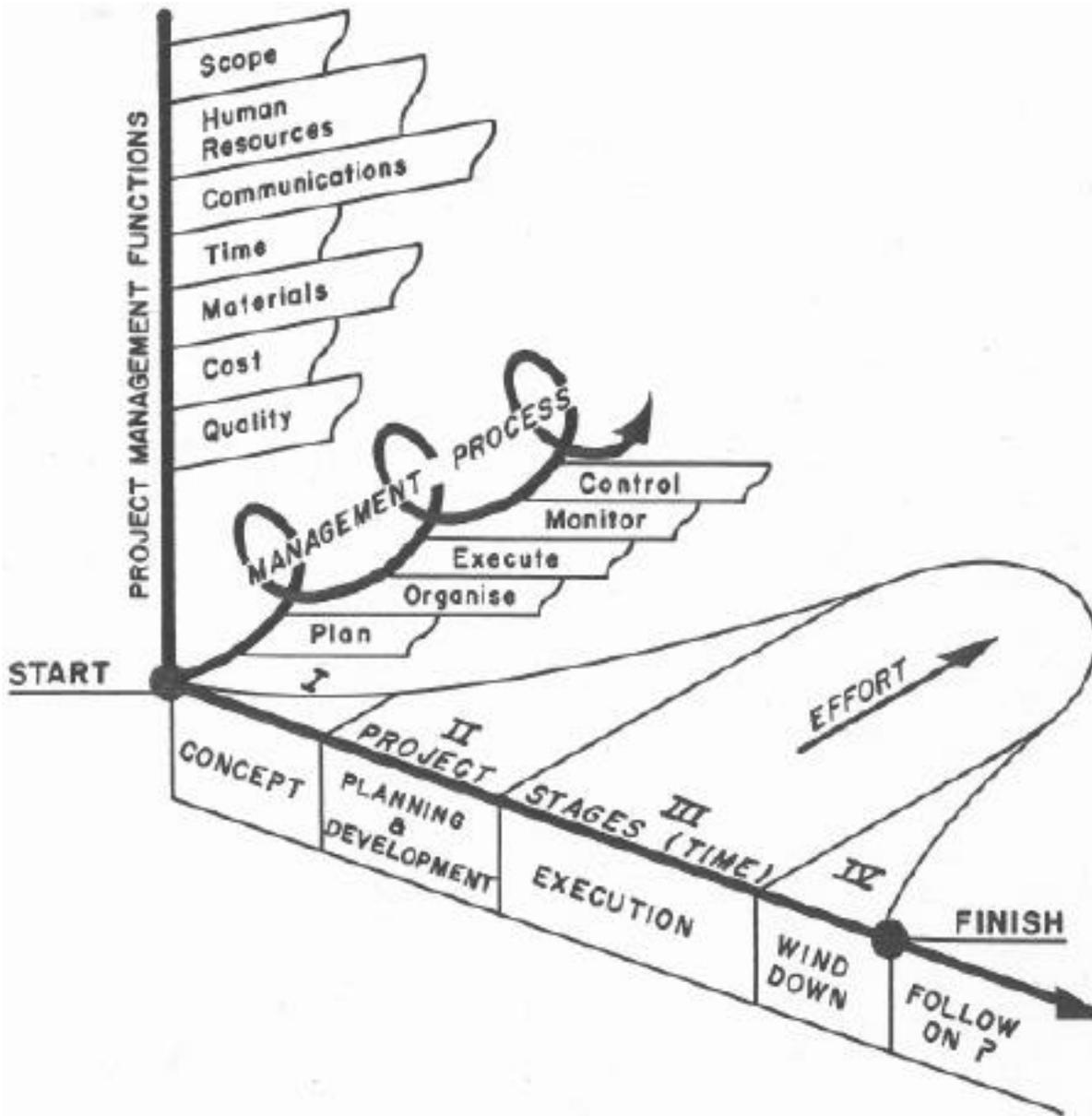


Figure 8

The Function-Process-Time interrelationship in project management. This diagram shows the connection which makes project management both universally applicable and unique to all project work. (From *Cost Control of Capital Projects*, by R. Max Wideman, 1983, p7)

Well, believe it or not, the only answer seemed to be to have a general or overview category. To avoid the problem of the "miscellaneous" file, which ends up collecting just about everything, this general section was carefully labeled ***Project Management Concepts***.

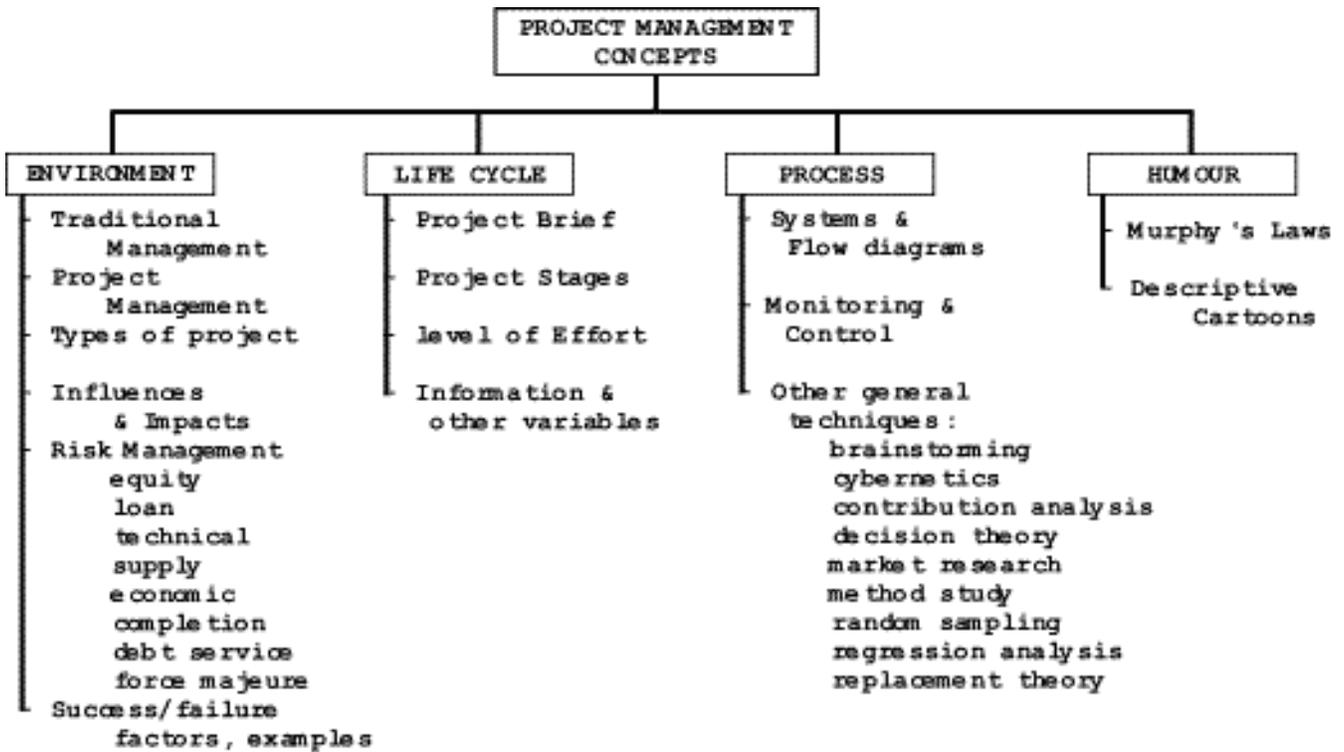


Figure 9

This overview section was subsequently renamed "Project Management Framework"

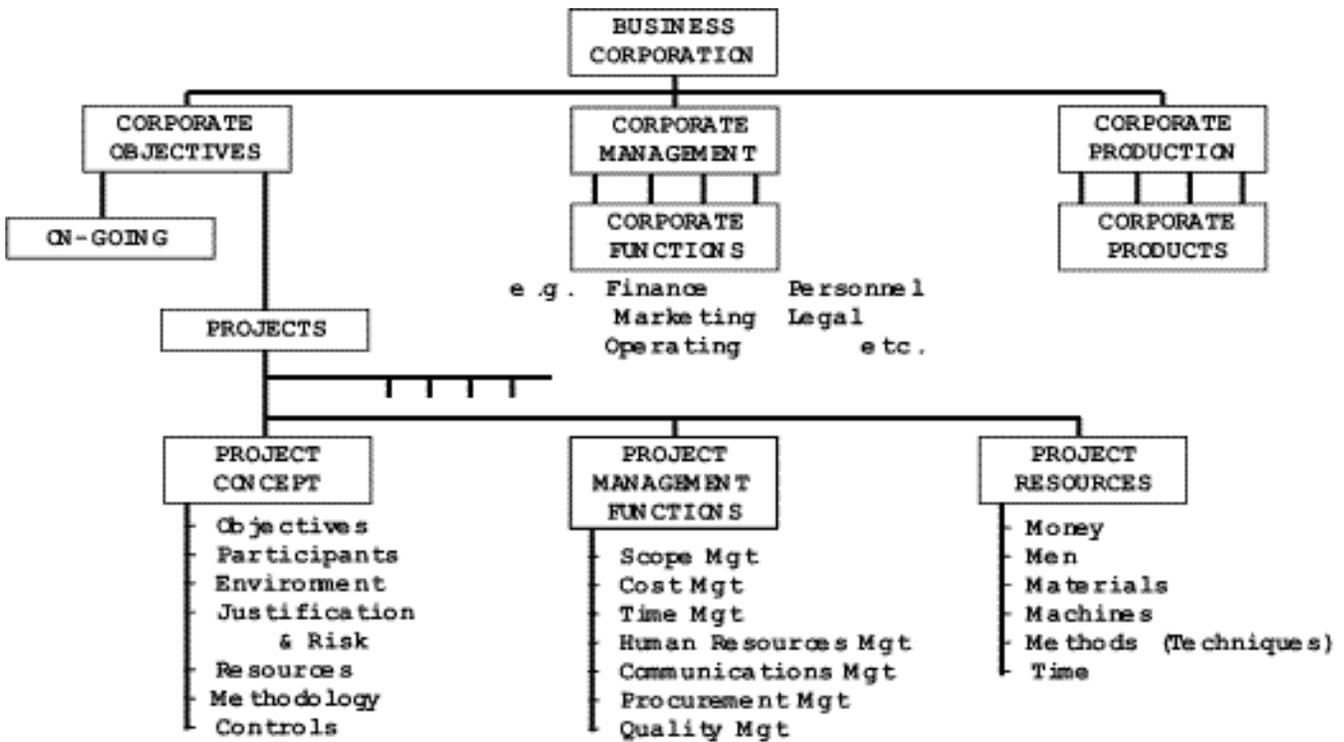


Figure 10

This section is the genesis of "Program" management (as distinct from project management).

While there is now more discussion of Program Management, to date it has not been seriously pursued as a learned discipline.

What finally surfaced from this exercise was a series of functional structures incorporating the original ESA work. The original ESA charts were somewhat modified for consistency and to differentiate between function specific content and function specific process. At the same time additions have been made, hopefully in general terms, which will cover industry specific (e.g. construction) topics not so far identified in the present ESA structure. The results are shown in the accompanying charts.

By the way, do you remember that neat little diagram that I developed showing the function-process-time relationship in project management? Does anyone know where I put that x#*x! transparency?

Appendix

For those who have some difficulty in following my logic, here are some useful project management definitions [as proposed by me in 1984.]

Concept

The imaginative development of a set of ideas.

Control

The exercise of corrective action as necessary to yield a required outcome consequent upon monitoring performance.

Manage

"To manage is to forecast and plan, to organize, to command, to co-ordinate and to control. To forecast and plan mean examining the future and drawing up the plan of action. To organize means to build up the dual structure, material and human, of the undertaking. To command means maintaining activity amongst the personnel. To coordinate means bonding together, unifying and harmonizing all activity and effort. To control means seeing that everything occurs in conformity with established rule and expressed command." (*Henri Fayol, Administration Industrielle et Generale, 1916*)

Monitoring

The capture and reporting of actual performance compared to planned performance.

Plan

An intended future course of action.

Process

The means by which an objective is achieved.

Project

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

Project Management

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

Scope

The work content of a project or component of a project. Scope is fully described by naming all activities performed, the end products which result, and the resources consumed.

System

A methodical assembly of actions or things forming a logical and connected scheme or unit.

Work Breakdown Structure (WBS)

A task-oriented "family tree" of activities which organizes, defines and graphically displays the work to be accomplished in order to achieve the final objectives of a project. .