

RESPONDING TO NEW MARKET OPPORTUNITIES: PROGRAM VALUE MANAGEMENT (PVM)

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ABSTRACT

This paper addresses potential services within individual project applications and those which respond to on-going facilities management needs. These new comprehensive VM services are called, "Program Value Management." The paper discusses industry trends in program management and follows with a brief review of current program management delivery models. Expanded opportunities for value managers within Program Value Management are then presented. The paper concludes with a review of the benefits, challenges and business opportunities for value managers in meeting this new expanded market need.

Introduction to Program Management (PM)

Change is all around us. Businesses are re-inventing themselves and business processes are being re-engineered for more efficiency and effectiveness. As cliché as these statements are, they are nonetheless true. What worked 20, 10 or even 5 years ago, is being constantly challenged and improved. The United States is undergoing productivity gains the likes of which it has not seen since the post WWII expansion. Only this time it's not coming from manufacturing plant growth. Now it's coming from office automation, process re-design and outsourcing of non-core business functions. And this time the construction process is part of the program being redefined.

The design and construction process has been historically practiced in a very inefficient manner.

It's linear process and the adversarial nature of core team members (e.g., architects, contractors, owner) have given way to alternative delivery methods as a matter of necessity. What started as a time consuming traditional General Contractor (GC) delivery method, led to Fast Track project delivery which in turn led to the need for a Construction Manager (CM) to coordinate the multiple bid packages. As owners struggled with more team members, less accountability, and still frequent cost overruns, the market responded with yet another delivery method, Design-Build. Here the owner had one entity with which to deal, providing increased fiscal and schedule accountability. But sometimes owners handed over more control to the Design-Builder than was prudent. This often resulted in the owner's quality or function expectations not being adequately met, as scope or quality levels were reduced to meet target budgets.

Today, owners also have to deal with strategic project financing issues, increasing regulations, more complexity and less staff on their part for management of the design and construction. Budget reductions, organizational re-engineering and non-core business outsourcing are issues now affecting corporate, governmental and institutional markets. An owner's in-house staff is now often inadequate in numbers or experience for the broad management issues facing them in project delivery.

As a result, owners currently have broader concerns and needs than just the project's design and construction. They need assistance in financial pro forma development, operational planning, property acquisition/disposition, determining conceptual project scope for funding approvals, writing RFP's and selecting project team members, relocation/move management, and improving the project's overall value. They need assistance with managing their **program**, not just the building **project**. This **PM** market need is being addressed by several industry trends. Here is where opportunities lie for Value Managers to re-invent their role in the design and construction process. VM's can increase their leadership roles on projects and greatly leverage their contributions to project value.

There are four trends in Program Management service delivery models:

1. Owner acts as PM This is the traditional model. Here the owner assumes all responsibilities for managing the program and holds contracts

directly with all parties. The project is delivered with one of the traditional design and construction methods (AE with GC or CM).

2. Architect/Engineer acts as PM. The AE assumes broad program responsibilities for the owner as described earlier, to the extent they are qualified. On public projects, the AE may be precluded from performing design services on the project. The owner continues to hold the construction contracts.

3. Construction Manager acts as PM. The CM assumes broad program responsibilities for the owner as described earlier, to the extent they are qualified. On public projects, CM may be precluded from performing construction work on the project. The CM holds the construction contracts for projects it is constructing. Where the CM is not allowed to contract for construction, contracts are held between the owner and the GC.

4. An independent owner's agent acts as PM (Agency PM). An independent consultant acts as a fiduciary agent of the owner, but does not directly hold contracts for construction. The Agency PM assumes broad program responsibilities for the owner as described earlier, to the extent they are qualified. This arrangement has the least potential for interest conflicts as compared to the AE or CM performing PM responsibilities.

The Agency PM is where the greatest potential lies for VM. VM professionals have a broad view of the construction process, know how to optimize value, are skilled at financial analysis, facilitate and lead multi-disciplined teams as a part of their basic functions. The concept of Program Value Management is the next evolution.

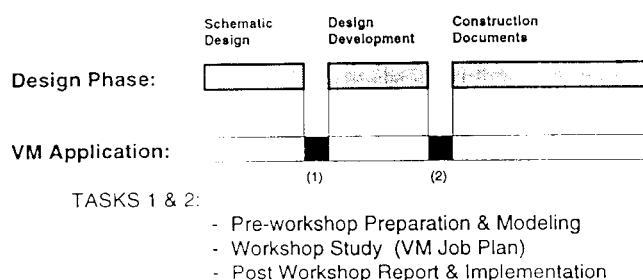
Traditional Program VM Services

VM services in the construction industry have primarily focused on application during the design phases of a project. VM was first applied in the 1960's by adding incentive clauses to construction contracts to encourage value improvement suggestions from contractors. It was quickly recognized that if VE was applied much earlier in design, then significant value improvement suggestions from the

designer, owner, user, construction manager and facility manager could occur because modifications to design were still possible. Today, VM is almost always applied at the completion of schematic design (10-15% stage) and design development (30% stage). This is illustrated in figure 1. If these applications occur, then there is less need to review the project during the construction documents phase.

Figure 1

Value Management (VM) Design Application
Individual Project



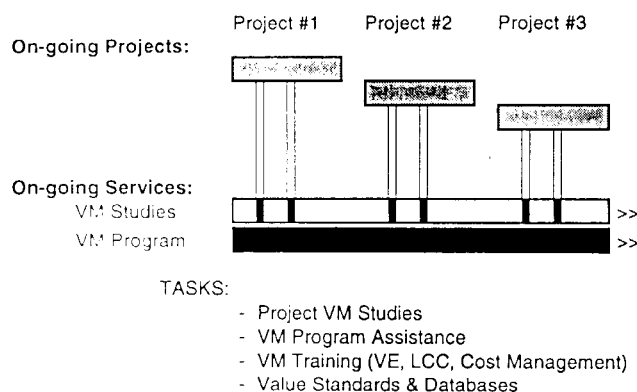
Various delivery options exist for providing VM services to project owners who do not have in-house capability. For a single project, VM consultants may be contracted by any of the following means:

1. VM consultant hired directly by Owner.
2. VM consultant hired by AE (architect/engineer) on behalf of Owner.
3. VM consultant hired by the CM on behalf of the Owner.

Owners that are involved in the design and construction of a number of projects with a recurring frequency have found it more practical to procure VM services using an "indefinite quantity contract" (IQC) sometimes referred to as a "task order" contract. This approach permits the owner to have VM consultants "on-call" when needed. Most Federal, State and local government agencies as well as large private corporations such as United Technologies, IBM, etc. have found this approach to their advantage since this permits the VM consultant to work directly for them, focusing entirely on the owner's interests. Figure 2 illustrates this approach. On the other hand, other owners use the IQC approach with construction managers or AE's who in turn provide VM consultant services.

Figure 2

Value Management (VM) Services Procurement
Indefinite Quantity Contract



Value Added Program Management (PVM)

Opportunities continue to expand for VM consultants due to both private and government Owners downsizing their facility management staff to concentrate on core business activities and reduce costs. This recent trend has created an opportunity for value managers to expand services for:

1. Individual Project Applications, and
2. On-going Facilities Management Needs.

This new set of comprehensive VM services called, "Program Value Management" (PVM) offers exciting new challenges for VM consultants.

Individual Project Applications

Traditional program VM services have not kept pace with changing owner needs. Although owners are still looking for VM consultants to assist them during the design phases of a project, they also require assistance in the financing, programming, construction, and occupancy processes as well.

During project initiation and reduced in-house staffs to properly seek best value in feasibility, financing and selection of procurement delivery approach, owners require advice and assistance in identifying, analyzing and recommending the best approach over a project's life cycle. Value specialists are already trained in much of this analytic process including life cycle costing.¹ Advice concerning project financing can be augmented with VE team financial analysts. Several VM consultants already

offer value planning and strategic value planning services.²

The programming phase (defining owner project requirements) is also an excellent opportunity for value specialists to assist. Proper programming requires an understanding of owner business functions, space & technical needs, quality expectations, and budget constraints. All of this must be in "value" balance prior to beginning design. Value specialists are eminently qualified in how to define project "functions" as well as establishing necessary space and engineering systems to support these functions. Function logic diagrams communicate these functions to the owner. Defining quality expectations (using the VM technique of "Quality Modeling") is becoming more important to owners particularly when trade-offs must occur to stay within austere budgets.³ Today's owners require project budgets for both initial construction cost, and the operation and maintenance (O&M) of the facility. O&M budgets for most owners have dropped from 11% to as little as 3% of capital costs per year. The Value specialist understands life cycle costs and how to establish realistic owner budgets.

Independent assistance is also required in the selection of A/E design services on behalf of the owner. Decisions regarding the "right" design consultant requires identification of selection criteria, weighting the importance of each criteria, evaluating various AE's based on experience and qualifications, and recommending the AE firm having the highest overall value score based on the evaluation criteria. The value specialist is already familiar with design service needs of owners and is trained in the "weighted evaluation" selection approach.

During design, in addition to the traditional VM reviews at the end of schematic and design development, the owner requires independent estimates of probable construction cost. The owner may also desire to have estimates of operations and maintenance cost as well. Project scheduling and updating is also required. Independent document technical reviews of the designer's work may also be required. The value specialist already has much of the needed skills to accomplish these tasks, but may require the assistance of others, particularly for estimating, scheduling and engineering technical reviews.

Owner assistance is required in the selection of the general contractor, each bid package contractor (in multiple construction package projects), and/or the

construction manager to complete the construction. The VM consultant, with assistance, can assure the owner of selection of the best value contractor/or CM to meet project functions.

During the construction phase, the owner requires independent consultant assistance: in the oversight of construction progress (schedule), financial payment to the contractor, representation at progress meetings, review of change orders, testing and commissioning, project handover and final account settlement. The VM specialist, with assistance by site construction engineers, can provide these necessary services during construction.

Owners are also looking for assistance in occupancy planning including: initial move-in, workstation fit-out, furnishings, and facility operational start-up. This effort was originally the primary responsibility of in-house facility managers. Value Specialists, with additional training and team member support, also can provide these needed occupancy planning services.

All of these current and newly expanding PVM services are illustrated in figure 3 for a specific project. Clearly there is significant new opportunities for VM consultants to add value to owner projects. Additional responsibilities and skills are also required to meet these demands.

(See Figure 3, next page)

Summary & Conclusions

Teaming for PVM

For the VM consultant to be successful in expanding services for both 1) individual new projects applications and 2) on-going facilities management needs, they must recognize the additional skills/team members required.

This new expertise for individual project application includes:

- Financial planning
- Programming
- Estimating
- Scheduling
- Construction Administration
- Occupancy Planning

For on-going facilities management this expertise includes:

- Energy auditing/analysis
- Maintenance Planning
- Replacement Strategies
- Organizational & Space Planning

PVM information databases are also required for:

- Construction Costs
- Maintenance Costs
- Replacement Lives & Costs
- Operational Costs
- Space Standards
- Financing
- Energy Standards

As a strategy for value managers to begin to expand their scope of involvement to include complete PVM services, we suggest teaming with those already experienced in one or more of these service tasks. For example, those not familiar with programming may find it beneficial to associate with architectural programming specialists. Partnering with construction managers might be a way of addressing construction related tasks. Still other services such as occupancy planning and on-going facilities management may require extensive value specialist training.

Benefits to the value specialist through expanded PVM services can be quite financially significant compared to traditional VM services. For example, the traditional fee for VM studies during design is approximately 0.2-0.3% of project construction cost.

PVM service fees for a new project may approximate 6-10% of the construction cost. (Note this is what many construction management firms charge to perform similar tasks). The challenges of these added services are also quite significant. Additional training and teaming with others is required. Responsibility and liability in providing these added services also require careful consideration by value consultants.

Business opportunities are significant as more government and private facility managers reduce staffs and seek consultants for program value management services. Since many of the skills of value managers are suitable for these expanded services, they are ideal in meeting this expanded need. Are value managers ready for this new challenge?

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