The primary objective of project management is to complete a project within a targeted cost, schedule, and performance standard. Often, the project cost is managed by various parties of an organization with incongruent viewpoints and interests. Different perspectives stemming from their diverse backgrounds and interests can pose a major challenge towards successful project management. The spectrum of perspectives inherent in key players of project cost management is discussed. The problematic areas of project cost management can be reconciled by integrating these key players and use of an efficient information system. The cross-purposes and divergence in key players’ viewpoints can work as an advantage rather than as a hindrance.

INTRODUCTION

In next decade, firms will be facing increasingly complex challenges such as raw material, salary factors, stagflation, and borrowing power from financial institution (Kerzner, 2003, p. 1). In the past two decades, project management has evolved as a rapidly evolving management practice adopted by numerous firms in order to cope with rapid rate of change in both technology and marketplace (Kerzner, 2003, p. 2). A growing number of organizations are adopting project management as part of their management practices. According to the project management objectives prescribed by the Project Management Institute (2000), “to run the project for targeted budget, schedule, and performance,” academicians and practitioners have observed how various management principals influence a project’s success.

In reference to future reporting models, the American Institute of Certified Public Accountants (AICPA) states, “Today’s business reporting, although a solid foundation from which to start, is incomplete due to rising marketplace demands for more relevant, up-to-the-
minute information” (AICPA, 2005). It also points out the need for industry-specific costing systems containing non-financial data, sufficiently flexible to respond to the dynamic and continual shifts in a project’s scope and costs throughout project life cycle. Contemporary project cost accounting systems, despite their recognizable advancements, rely on financial data derived from an organization’s general ledger and may lack operational data likely to be vital to a comprehensive project management undertaking. Contemporary cost accounting systems may not capture and generate all decision making data surrounding a project. Further, they may not be sufficiently flexible to respond to the dynamic and continual shifts in a project’s scope and estimated completion costs throughout project life cycle. A multitude of specialized cost accounting systems based on contemporary costing models such as Activity-Based Costing/Management (ABC/ABM) have emerged aspiring to meet the evolving needs of decision makers in both government as well as private entities (Coburn et al, 1998; Brimson, 1993). However, not all projects call for prescribed or uniform decision-making information since each project is unique in its scope and requirements. Project cost management, as one of project management objective dimensions, is an area that deserves a closer examination and continued improvement.

KEY PLAYERS: ROLES AND VIEWPOINTS

An accountant is the first entity that comes to mind when one hears the phrase, ‘project cost.’ Nonetheless, the accountant is not the only party who generates and enhances financial data in an organization. Other players such as the project manager and treasury manager can be a source as well as an enhancer of information vital to a project’s success. The divergence in cost perceptions of key participants is largely influenced by what they believe their roles are and by how they view a project’s success.

A project manager (PM) leads a group of professionals and leading these professionals requires a sound understanding in technical contents of a project. Hence, a PM is required to have sufficient skills for making technical decisions. A PM is the “middle person/focal point” between suppliers and customers, between functional departments and project office, and between top management and employees. A PM balances between flexibility and firmness, creativities and routines, action and thinking, planning and acting, selling and managing (Jung and Wu, 2007). A PM performs four main duties of leading, managing people, strategizing and planning, and analyzing information (e.g., Goshling and Mintzberg, 2003; Gaddis, 1959). With the recent growth of international project settings, a PM has to be a dancer on the world stage while performing his/her duties. They make sense of their local environment and customers through careful information processing and analysis. They build networks with local communities so as to lead better. They build human resources and manage their human capitals to implement strategies. They contribute by decision making, planning, and strategy development. Figure 1 depicts a successful project manager’s roles and functions in today’s global project settings (adopted from Jung and Wu, 2007). In addition, a PM needs to be knowledgeable in the areas of budgeting, scheduling, and corporate policies (Gaddis, 1959, p. 94). From a PM’s perspective, a project is viewed in three varying dimensions of cost, schedule, and performance where the cost represents one of three equally important variables. As such, a PM tries to optimally balance these three variables since any gain in one would likely result in loss in the others.
An accountant has a twofold function in project management. First, he/she keeps track of actual project costs in compliance with Generally Accepted Accounting Principles (GAAP) as they are incurred and reports the results on an accrual basis. Second, an accountant provides useful decision making information in accordance with contemporary cost determination and control philosophies including activity-based-costing, quality costing, bottleneck analysis, benchmarking, cash flow and cost variance analyses. The accountant provides data to support measurement of project profitability and financial performance. The academic preparation, personality traits, and viewpoint of the accountant may be distinct from those of other key players. The accountant is also responsible for generating relevant reports in support of the routine activities of various segments of the organization. For these reasons, an accountant’s focus lies on organization’s overall operating performance as one entity rather than the activities of divisions or its individual projects.

A treasury manager (TM) extends credit to customers and accounts for collection of the organization’s receivables and timely discharge of its financial liabilities. A TM is also responsible for the optimum utilization of the organization’s liquid assets with a broader role of optimizing the treasury management. He/She relies on moving cash budgets, investment risk analysis, asset mix, and short-term investment tools to develop a cash management strategy based on the time-frame and constraints inherent to the organization. Additionally, a TM’s performance is typically evaluated based on how well the TM anticipates company’s future cash inflows and outflows and by how well the firm’s liquid assets are managed.

PROJECT COST PERSPECTIVES

Distinctive viewpoints from project manager, accountant, and treasury manager in relation to project cost, results in a spectrum of cost perceptions (Hamburger, 1986). Because of such a diverse cost perspectives, the key players exhibit different motivation and attitudes and utilize different cost control mechanisms. For a same amount of project scope completed, an accountant’s budget estimate tends to ‘lag’ PM’s estimate and the TM’s estimate tends to ‘lag’ even more. Figure 2 illustrates this cost differences due to different perspectives of Accountant, PM and TM. For example, a project that is about 75% completion stage may already have used up 90% budget per PM because he/she already placed orders with suppliers in advance. At this same stage, the accountant may consider only 65% of budget is used up given that some bills are
yet to be received from suppliers, even though materials may have been supplied. The TM may consider only 40% budget as expensed, at that point, as only so much money have been paid.

From a PM’s perspective, ensuring the project is completed within an intended financial budget is important. As the project tasks are carried out, a PM tends to reduce budget at the earliest possible time; a PM is commitment-oriented and incurs the cost at the earliest time such as when making a commitment to a supplier about placing a purchase order. From an accountant’s perspective, generating accurate assessment of project cost accounting in a timely fashion is the main focus; an accountant is transaction-oriented and incurs cost when invoices are received from suppliers.

A TM is mainly concerned with the productive use of company resources, especially the cash-flow. In contrast to an accountant, a TM views a transaction as an economic event to the extent that it potentially affects the cash flows; a TM is cash flow-oriented, and incurs cost when a payment is made. This cash flow based assessment can be long after the PM has committed to a transaction or when the accountant has recorded its accrual effects. For longer-projects and more supplier-dependent projects, the cost assessment gaps between these key players can invite even more problematic results. Further, more and more companies are conducting their projects at international settings with key players being spread by different geographic locations and time zones. This can invite cost assessment gaps to be even bigger.

**PROJECT LIFE CYCLE AND KEY PLAYERS**

A project follows a series of phases as it progresses from beginning to completion. The phases are characterized by the amount of effort needed and decisions to be made. This series of phases is referred to as the project's life cycle (Jurison, 1999). As a potential project is identified, it is evaluated using multiple screening criteria where benefits are compared to costs. Once selected, it then goes through scheduling activities when different resources are allocated and time phased. Typically, a PM’s involvement starts in the conceptual and planning phases while the accountant’s significant involvement does not begin until the execution phase when actual
transactions begin to take place. The significant contribution of a TM may not begin until acquisition of resources and recognition of expenses in the profit/loss assessment process, which occurs even deeper in to the execution phase. During the conceptual and planning phases, the activities required for project evaluation and selection can be extensive. By the time projects are selected, substantial identification and evaluation costs may have already accumulated.

<table>
<thead>
<tr>
<th>CONCEPTUAL</th>
<th>PLANNING</th>
<th>EXECUTION</th>
<th>CLOSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of need</td>
<td>Evaluate proposal</td>
<td>Perform work</td>
<td>Transfer responsibility</td>
</tr>
<tr>
<td>Establish goal</td>
<td>Select proposal</td>
<td>Procure material</td>
<td>Release resource</td>
</tr>
<tr>
<td>Feasibility study</td>
<td>Prepare plan</td>
<td>Verify performance</td>
<td>Transfer people</td>
</tr>
<tr>
<td>Proposal</td>
<td>Develop budget</td>
<td>Modify as required</td>
<td>Post evaluation</td>
</tr>
<tr>
<td>Time/resource estimate</td>
<td>Develop schedule</td>
<td></td>
<td>Lessons learned</td>
</tr>
<tr>
<td>Identify key people</td>
<td>Assemble key people</td>
<td></td>
<td>Reward people</td>
</tr>
</tbody>
</table>

Table 1: Project Life Cycle.

It is also widely accepted practices that project budgets are often the product of negotiations or political compromise within the organization. As a result, indirect costs are left out during the budgeting process (Meredith and Mantel, 2003, p.341). At times, the initial project budget may include only direct costs and may lack indirect cost (i.e., indirect cost accumulated during the conceptual and planning phases, general office equipment) and G&A, especially for a large firm with multiple projects. This omission is also due to the indirect and organization-level costs not being traceable to individual project, thus, allocation of such costs to projects would at best be arbitrary.

Once the initial budget is established and as the project evolves into execution phase, PM’s cost focus may shift away and the PM is rarely aware of the detailed real time transaction-based cost data or availability of needed funds. Traditionally, an accountant maintains a historical perspective of financial data. Marginal costs, sunk costs, opportunity costs, and feasibility study costs have only decision relevance and are not normally captured or processed by traditional accounting and reporting systems. Indeed, the accounting profession’s established rules exclude such accounts from being used. Although, technically, accounts of a business can store any measurement, they are reserved exclusively for objective and verifiable monetary values. The difference in perspectives of the major players causes greater conflict of interest. A PM wants to make major cash purchases for the project upfront, whereas the TM is planning to release cash/funds evenly over the duration of the project. Alternatively, the student syndrome and hockey stick approach resulting in sudden surge in funds requirements during the later stages of project execution etc.

PROJECT COST ACCOUNTING SYSTEM

Problems associated with the cost aspect of administering a project stem from the divergence in the cost views maintained by the PM, the accountant, and the TM. The degree of PM’s concerns over project cost tends to subside when the project budget is established and funds are encumbered. Although the PM is cognizant of controlling the budget, his/her focus tends to shift away from the budget once the budget amount is established. The PM will be best served by paying equal attention to project cost, performance, and timetable. On the other hand, the PM is rarely privy to the timing of cost accruals or real-time data about the availability or
timing of funds or cash flows. Absent from the initial budget are indirect costs attached or allocated to the project or organization-level costs that may not be directly traceable to individual projects.

Traditionally, the accountant maintains a historical perspective of financial data. Information captured and processed by the accounting system must pass the test of reliability and objectivity and be independently verifiable. Sunk costs, opportunity costs, projections, and data generated by feasibility analyses performed by the PM are not normally captured or processed by the accountant. In other words, the main activity of the accountant is to maintain an accurate historical record of the company’s financial affairs. The accountant is undoubtedly concerned with cost control. Nonetheless, inasmuch as the accountant’s viewpoint about the nature and recognition of expenditures differs from those of the PM. Accordingly, the accountant’s cost management techniques and information needs do not fully coincide with those of the PM. Further, the accountant’s responsibility is limited to costs actually incurred irrespective of their effect on cash flows, whereas the TM is responsible for ensuring that the entity is capable of meeting the financial commitments effected by a project. Normally, in contrast to the accountant, a transaction becomes an economic event to the TM only to the extent and when it has the potential of effecting cash flows which occurs some time after the accountant has recorded its accrual affects.

<table>
<thead>
<tr>
<th>Role &amp; Responsibility</th>
<th>Project Manager</th>
<th>Accountant</th>
<th>Treasury Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Manager</strong></td>
<td>Oversees project activities and makes decisions. Daily balancing actions between time, cost and performance. Ultimately responsible for the project.</td>
<td>Focuses on accurate tracking/recording of economic events. Responsible for preparing reports that help decision making processes.</td>
<td>Focuses on the optimum utilization of the firm’s liquid and capital assets.</td>
</tr>
<tr>
<td><strong>Accountant</strong></td>
<td>Maintains a total view of the project and is not focused on detailed record keeping. Equally concerned about successful results in project schedule, budget and performance.</td>
<td>Not a party to project identification activities. Less concerned about day to day project schedule, budget overruns and performance.</td>
<td>Less concerned about day to day project schedule, budget overruns and performance.</td>
</tr>
<tr>
<td><strong>Treasury Manager</strong></td>
<td>Maintains cost perspective and detached from the accrual or timing of detailed expenditures. Project cost view shaped during the budgeting phase.</td>
<td>Maintains a transaction based view, recognizes cost as transactions take places. Timing of initiation cost accrual is subsequent to the budget’s acceptance.</td>
<td>Maintains cash flow based view, recognizes cost on cash flow requirements.</td>
</tr>
<tr>
<td><strong>Involvement</strong></td>
<td>Starts early in project identification phase and continues through post evaluation.</td>
<td>Starts in project execution phase as cost record keeping starts.</td>
<td>Starts in project execution phase after cost record keeping and cash flow starts.</td>
</tr>
<tr>
<td><strong>Performance Evaluation Basis</strong></td>
<td>Measured by degree of project success in cost, schedule and performance. Also measured by degree of project objectives not being violated.</td>
<td>Measured by quality and usefulness of cost information provided to the decision makers.</td>
<td>Measured by degree of efficiency and effectiveness by which the firm’s financial resources are utilized.</td>
</tr>
</tbody>
</table>

Table 2: Key players of traditional project cost management.
As summarized in Table 2, these incongruent viewpoints among the organizational managers with cost assessment responsibilities give rise to following questions:

- How can we decrease the gaps in cost assessments among different key players?
- How can we improve the teamwork-ship among key players so that we can improve the accuracy in cost?

**PROJECT MANAGEMENT INFORMATION SYSTEM (PMIS)**

Masses of quantitative as well as qualitative data surge as the project gets underway. Whereas advanced modular project management information systems may address the needs of different users in the project team, typically, they are not fully integrated with the accounting and financial planning systems of the organization. The decision makers may need information that may not be relevant to other decision makers and that may not have the same qualitative characteristics needed by others. Figure 3 depicts action and data flows of typical Project Management Information System (PMIS), Management Accounting Information System (MAIS), and Cash Flow Management Information System (CFMIS).

Inherently, stand alone MAIS, PMIS, and CFMIS are not suitable for effectively managing projects. Further, these systems typically contain redundant data and processes as well as duplication of efforts that are inadvertently conducing to errors, miscommunication, delays, and emergence of non-value-added activities. One ready-to use PMIS software has short-comings of offerings in that addressing specific needs of all types of organizations and stakeholders is difficult. The PMIS must provide project members with the ability to collect and analyze diverse project related information. A PMIS does not need to be sophisticated, but it must enable timely seamless information flow with linkages to other financial data systems. Often, the contemporary modular information systems fall short to the extent that not all parties involved have real-time access to the reports and to the extent that events and reports in one area are not dynamically linked to those in the other areas.

![Figure 3: Cost Management Information Systems.](image-url)
A well-designed information system facilitates instant articulation of each key participant’s actions to others. Throughout the project’s life cycle, the accountant would remain abreast of encumbrances affected by the PM. Furthermore, financial resources and commitments become apparent to the TM the moment they are identified and recorded by the accountant. Ideally, such an all-embracing information system should dynamically link fund appropriations of the PM and transaction recording activities of the accountant to cash flow reports generated by the TM. Additionally, it needs to facilitate a communication mode wherein ongoing modifications made by any team member become instantly transparent to other key participants. Such an information system would function advantageously only when key players function as a team. The team members affiliated with a project have to acknowledge their cost motives and the obstacles that such appetite may bring about in the event that they counter the intentions of others. The aim of this system should be directed toward preventing, uncovering and remedying shortfalls rather than toward rightfully or wrongfully pointing blames.

TEAMWORK AMONG KEY PLAYERS

A team has characteristics above and beyond those of a group of individuals working together. In other words, not every working group can be considered a team or expected to behave as one. A team develops its own distinct traits apart from those of its members that can prevail even in the face of changes in the team’s membership. On the other hand, a team cannot arise and flourish in a vacuum. Its formation and livelihood are entirely dependent on an organizational culture that fosters its existence. Accordingly, the project development group may warrant a closer examination. In a workable team, members have the tendency to know what other team members are thinking and coordinate their own activities accordingly, thus sharing a common interest. Team members cooperate with one another to push forward a common purpose in a coordinated fashion. Project management is not only about winning, but also about playing a good game.

From a cost management view, a prudent PM anticipates potential causes of cost overruns, continually assesses potential risks, and detects the likelihood of failures in advance. The final outcome of project performance should not be the sole measure of a PM’s overall performance (Belout and Gauvreau, 2004). The PM’s responsibilities should not be limited solely to the activities surrounding the project initiation, execution, and closure. Successful control in cost, schedule and performance no longer mark the characteristics of an effective PM (Pinto and Prescott, 1988). Maintaining high awareness about the fitness of the team by consistently evaluating the team’s harmony through balancing firmness and flexibility is essential (Tatikonda and Rosenthal, 2000; Smith and Reinertsen, 1998). Facilitating teamwork by providing leadership in pursuing a common interest by all team members is an equally essential ingredient (Zammuto and O’Connor, 1992; Kerzner, 2003).

A significant influence on the project cost management can stem from involving the finance department personnel from the planning phase. Involving the finance department members in the proposed project evaluation can be difficult. It is not unusual that the PM department sees the ‘finance people’ as mere bookkeepers and auditors; PM department typically does not welcome the finance department getting involved in daily operational decisions. This is the first barrier that has to be overcome. The finance department’s role can be improved to a
‘coach and advisor’ as it has the ability to provide useful information during key decision making processes. The finance department has the capability to facilitate project portfolio optimization based on cash flow optimization. Increasing numbers of organizations are requiring the finance department to take the leading role for analyzing financial aspects. This can relieve the PM department members from having to figure out the detailed financial aspect of projects and focus towards improving key performances and identifying other opportunities. In other words, finance department can screen out activities by identifying non-value-adding activities. Furthermore, they can provide valuable information for scheduling activities with cash flow leveling needs.

During the project selection phase, all key players need to work closely to identify the accurate costs and benefits of proposed projects. During this period, key players must finalize on how the project cost will be calculated including suppliers and customers. Variations in on-going assessment of project cost stem from different cost calculation methods. A standardized cost accounting method such as ‘earned value method’ is being adopted by more companies (Town, 1998). Often, the implemented projects actually report more benefits than what the PM estimated because of valuable insights provided by the finance department. During post evaluation phase, finance department can verify whether the company obtained the benefits that were envisioned. If significant deviations are present, the key players must review and identify the reasons so that the ‘lessons learned’ can be applied to future projects.

CONCLUSION AND SUGGESTIONS

The diversity in background, motivations and approaches of project cost management team members can present a challenge. The success of a project is largely dependent on the full teamwork among these diverse members. By increasing the involvement of this highly skilled, yet diverse group of individuals, a project can benefit rather than suffer. Following suggestions are offered for enhancing the project cost management:

- Create a coherent team with a unity of purpose. Such a team should be created upon recognition of the need for a project. All key principal units need to fully participate in all phases of the project’s life-cycle, including project identification and evaluation. Appoint a dedicated person from each participant group to the team.
- Identify the information needs of members of the team. Assess the company’s existing management and accounting information systems and identify areas where such systems should be complemented to ensure that information needs of all team members are met.
- Establish a communication hub by designating a communications officer post. Establish clear communication channels among all parties. Such a system will keep everyone abreast of any changes or developments in project related activities.
- Ensure that all members of the team work toward a unified goal which the achievement of which would also constitute the basis for everyone’s performance evaluation. Team members should be very clear about the performance standards they are to meet.
- Include individual’s participation towards project management related activities as part of his/her performance evaluation criteria.
- Involve the financial key players such as the accountant and the TM early in the project’s life cycle in order to benefit from their expertise and to build their commitment to the project.
• Standardize the project cost calculation method. Variations in on-going cost assessment stem from different cost calculation methods. Use standardized cost accounting methods such as ‘earned value method’ internally and externally.

• Assign the leading role of tracking project costs to the finance department so that the aggressive cost figures from the PM department are mediated. This allows the PM department to focus on other non-financial key performance metrics. Typically, as key performances improve, the financial bottom line also improves.

REFERENCES


