Introduction

The project manager's role in a nutshell is the overall responsibility for the successful planning, execution, monitoring, control and closure of a project.

Project management can be more easily explained by breaking it down into its component processes.

- Integration
- Time
- Quality
- Scope
- Cost
- Human Resource Management
- Communications
- Procurement
- Risk

These components are defined by the "Project management body of knowledge" as the nine knowledge areas.

Communication

Communications is an essential component to Project management and control. Without it all the other processes, also crucial to project management would be unorganized and un-progressive.

Primarily, communications plays a key role in keeping all members of the project management team, and indeed the clients on the same page. Communication on an effective team starts from day one, from the moment a project is assigned, and continues throughout the life cycle of a project.

- Communication Planning
- Information Distribution
- Project meetings
- Progress Reporting
- Administrative Closure

Communication planning is all about devising the methods or methods of communication to be carried out. However people become susceptible to misunderstanding when there is, one way communication, inappropriate communication & media usage, and lack/inaccurate verification.

Indeed there are a few steps to help plan for effective communication:

1. Clarifying your communication goals

2. Knowing your audience

3. Craft your messages

4. Choose your channel of Communication media

5. Evaluate outcome of communication

Effective Project planning & control rely greatly on the accurate distribution of information, meaning the right people get the right information at the right time for project status and to make decisions on projects. Methods of distribution are dependent on type of information to be distributed requirement of audience, and timeline for a required response. In addition there are three main categories of communication:

1. Face to Face
2. Hard Copy Communication
3. And Electronic Communication

Progress reporting and meetings are the primary means of communications for project managers. It is a formal way of updating the team and clients of the current status of the project and/or specific components of it, and can be used as a qualitative means of assessing the project and/or individuals. Common areas of mistakes are lack of honesty in communication, and poor communication channels.

Administrative Closure is often hurried and disorganized due to project managers quickly preparing for their next project or client. They miss an opportunity to ensure client satisfaction, and a smooth transition to their next project or client. Administrative closure when done correctly can be an opportunity to improve on your own processes, and/or remediate any issues that occurred during life-cycle.

Procurement

Procurement is part of the project management and control process in which products or services are acquired or purchased from outside the existing employee base, in order to complete the task or project.

- Planning
- Solicitation Planning
- Source Selection
- Contracts

It is essential and imperative that the project management team implement an effective and succinct plan when it comes to various components of procurement throughout the project's life cycle. Management plans should be implemented as early in the project life cycle s possible to assure that the procurement process is consistent throughout. (plans can change especially if budget reasons dictate) Project managers job is to dictate and describe the entirety of the procurement processes, this is includes identifying what services required for the project to proceed.

Solicitation planning consists of the preparation of the documents needed for the procurement and determining the evaluation criteria for the contract award. The primary procurement documents are:

- Request for Proposal (RFP) - is used to solicit full proposals from potential suppliers
- Request for Quote (RFQ) - is used to solicit quotes or bids from prospective suppliers
- Request for Information (RFI) - is used to gather information that may be used during the procurement or included in the RFP

When undergoing source selection, it is important that project managers have the proficiency to make the best decision in terms of cost, and quality. There are several factors that must be considered when selecting source:

Price - is an essential factor, and it is important to compare prices between vendors as some sellers will fail to disclose hidden costs such as environmental or shop fees, handling, materials surcharges, etc. one way of addressing this issue is to have every project managers RFQ, stipulate that quotes must contain a line by line breakdown of all costs including incidental fees.

Shipping – Important to consider as the location of your vendors facility can impact the cost and more importantly the time it would take to receive a component. Hence both cost and time should be compared when selecting seller.

Assurances - significant indicator of the likelihood of receiving quality service or parts. E.g. paying a higher price to do business with a more established vendor may actually be the better option.

Project managers usually enter into contracts with sellers to purchase the products and/or services required to complete project. Hence a Clear contract that stipulates all the requirements of the project is essential in allowing sellers to submit accurate bids. There are several types of contracts that can be used for a variety of financial situations.

Fixed price or lump sum - The buyer and seller agree to a predetermined price. The buyer pays a Fixed Fee (FF) or Firm Fixed Price (FFP) for a well-defined product or service. The fixed fee includes all sellers' costs and profit.

Cost Reimbursable – The buyer pays the seller for direct and indirect costs. 3 types of cost reimbursable contracts; Cost plus incentive fee, Cost plus Fixed fee, and Cost plus Percentage of costs.

Unit Price Contracts – the buyer pays the seller a predetermined amount per unit of service. The buyer agrees to pay time and materials for services (this fee includes sellers profit)

Integration management

In a project, integration management means to coordinate all aspects by focusing on communication and relationship management. When integration properly performed, it helps the project run smoothly. Integration management produces several deliverables including project charter, project plan, and preliminary project scope statement.

Some processes involved in integration management.

Development of the project charter starts a project. Then development of the preliminary scope statement defines what is and what not a part of the project is. The next stage **is** development of the project plan. The project plan contains project charter, the definition, project objectives, project budget, project schedule, the resources required for the project, the approach, management plans, and the initial risk assessment. Directing and monitoring of project execution follows as next process, this is when the project really gets underway. Then, project work must be monitored and controlled. Project change may be made during the project, the quality of the project may be compromised. It is related to the sixth**:** the control of integrated change. Finally, project must be closed when it has been completed.

Time management

The time management processes deal with defining activities, estimating the durations of activities, scheduling activities and ensuring adherence to the schedule

5 aspects are processed.

- Definition of activities and action items: project managers must identify the tasks to be undertaken during the project life cycle Sequencing of activities: this process involves the mapping of task dependencies.
- Estimating of resource of each activity: this process relies primarily on expert judgment.
- Estimation of activity durations: expert judgment will be required.
- Project schedule: assisted by the project management software.
- Control of the project schedule: schedule control relies on those who understand the process and how the schedules change.

Risk

Results of Risk Quantification and Qualification Analysis

The project team knows the likelihood of something happening, the amount at stake; The team has a sense of what is important; the team knows which opportunities to pursue; And the team knows to know which threats they must respond and which opportunities to ignore and which threats to accept. The project management team can never eliminate all risk, but specific risk events can often be eliminated Acceptance is also important, it can be active (e.g. by developing a contingency plan to execute should the risk event occur) or passive (e.g., by accepting lower profit if some activities overrun).

Cost

Cost is divided into Direct Costs and indirect cost, the direct cost is attributable to the project: Salaries and associated Benefits, materials, payments to subcontractors or consultants. The Indirect cost is necessary business expenses: general administrative costs, facility, marketing, ongoing research and development.

The basic equation of cost is:

Cost = Labor$ x Time + Other Direct Costs + Indirect Costs

How to control cost:

To control the cost, the Project need to Budget a Constructor, forecasting for Activity Cost Control, estimated Total Cost to Complete an Activity, financial Accounting Systems and Cost Accounts, Control of Project Cash Flows, Schedule Control and Schedule and Budget Updates.

Time

When we start a project, the quality is the most important part and first thing that people should consider, otherwise the imperfection of the project may lead to lose the whole project. Quality is fitness for use. Quality of the whole system will be influenced by many sides.

From a business project perspective, the quality will be considered in following criteria:

Time limit: Will the project completed in time?

Budget: Will the project completed within budget?

Expectant: Will the project meet the client needs?

Sustainability and stability: Will the project be stable?

That's the points about quality we need focus before we start a project, all the work should be surrounded by these basic requests.

Quality

Quality management:

- It identifies what the client wants
- Defines the organization's work to satisfy the demand
- Conducts measurement throughout the whole process
- Informs how well performance meets the requests.

Quality control:

It's the function of

- Project demands analysis;
- Plan testing
- Production process control
- Ensure the conformance

Human Resource Management

Human resource management plays a very important part in managing a project effectively. It entails the ability to ensure the appropriate human resources are acquired with the necessary skills, desirable skills are identified and training is provided, team building strategies are clearly defined and activities which involve the team are effectively managed.

Additionally human resource management involves developing a human resource management plan. This plan is a necessary tool which aids in the management of activities throughout the project until closure. From such a plan the roles and responsibilities of team members are made clear throughout the project with the assistance of project organization charts and integration of an effective staffing management plan. An effective staffing plan encompasses attracting and retaining high performing staff, developing fit for purpose staff profiles, strengthening leadership capability and developing a high performance culture supporting workforce equality and diversity.

A staffing management plan describes how resources will be required, the timeline for resource/skill sets, and requirement of training to develop skills, how performance reviews are conducted and the use of a recognition and rewards system.

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