Project Governance

THE INSTITUTE OF
Company Secretaries of India
IN PURSUIT OF PROFESSIONAL EXCELLENCE
Statutory body under an Act of Parliament

December 2016

Price : Rs. 100/- (*Excluding postage*)

Published by :

THE INSTITUTE OF COMPANY SECRETARIES OF INDIA
ICSI House, 22, Institutional Area, Lodi Road
New Delhi - 110 003

Phones : 45341000, 41504444 o *Fax* : 24626727
E-mail : info@icsi.edu; *Website* : www.icsi.edu

ISBN 9789382207917

Printed at Chandu Press/December 2016

PREFACE

In the contemporary world of global participation, growth and development, organizations are diversifying and intensifying their businesses towards global reach. Governance professionals are finding it intricate in the global economy to keep a track on the various facts and facets of operations into which the organizations may get engaged. Moreover, the delegation of authorities and responsibilities is now being done at the project level.

Under this context, a perspective analytical understanding and research on Project Governance is gaining momentum all across the world. It is being revealed that sound Project Governance is reflected in integrated and ethically managed strategic orientation with holistic control. Contributions from scholars across the world have already been made on Project Governance. A common opinion which has evolved reflects the importance of project governance for successful and sustainable business organizations.

The global economy is witnessing the increasing size of the services industry which has 'Projects' at its core. It is important for organizations to adopt and effective mechanism for successful Project Governance to deliver the desired services. Therefore, it can be easily affirmed that for an organization to be successful sustainably Project Governance is essential.

With a view to create an understanding in Project Governance, Institute is bringing this publication, to comprehensively analyse the theoretical and corporate perspectives of Project Governance.

I place on record the efforts put in by Mr. Nilesh Neelmani, Research Associate, ICSI in preparing the manuscript of this publication under the guidance of Dr. Rahul Chandra, Joint Director, ICSI and overall supervision of CS Sonia Baijal, Director, ICSI. We are also thankful to Shri Chandra Roy for reviewing this publication and enriching the contents.

I am sure that this contribution will help the governance professionals in adding a new paradigm to their portfolio.

Place : Kolkata
Date : December 22, 2016

CS Mamta Binani
President
The Institute of Company Secretaries of India

CONTENTS

1

Project Governance Conceptual Framework

The central idea of 'Project Governance' has got its route in 'Corporate Governance' as applied in the 'Project Management' world. The concept of project management evolved with the development of the world economy moving towards the adoption of the concept of Strategic Business Units. However, the world economy could not sustain the growth and nose-dived on various occasions caused by corporate and accounting scandals due to lack of transparency and absence of control system for governance and regulations. Such events led to the formulation of corporate governance codes for various economies around the world. The dawn of this millennium witnessed, the most talked term for corporate governance across the world, 'The Sarbanes-Oxley Act of 2002 (SOX)'.

In the form of SOX compliance project deliverables, the Sarbanes-Oxley Act of 2002 through its sections 302, 401, 404, 409, 802 and 906, laid the foundations of the Project Governance. The recommendations for 'Internal Controls Best Practices' under SOX resulted into the evolution of 'Project Governance'.

History of corporate governance starts after 1990. Before 1990's the scenario of the corporate governance was quite hazy. It was after 1990 that several committees were formed and code of corporate governance were framed, some of the codes were made mandatory and some were made optional but all these codes had good values for the corporate and society.

The global slip and slow down in economy during the year 2008-2009 was mainly due to poor corporate governance and sudden collapse of large corporate such as Enron, World.com, Global Crossing, Tyco and City Bank etc. that gave an early warning signal. Risks also played a role and due to political risk Tata group faced trouble at Singur in its Nano-car project. In India also several scandals took pace, major being Bofors, LIC (1957), Harshad Mehta activities in share market, PNB and Raj Shethia, Ketan Parekh and UTI, and Telgi Stamp paper scandal etc.

The first committee framed where Cadbury and Hampel committee (1996-1999) and recommended some preventive measures and guidelines. In India several committees for study of corporate governance where framed. The ultimate concept was 'transparency' these committees were Kumar Mangalam Birla committee, SEBI study, CII and M. S. Verma committee for banks. Again for NPA control and quick recovery of bad loans Securitisation Act (2002) was framed on 26/27th March 2009. CII organized meetings covering the system to discuss the major issues related to corporate governance.

In one of the landmark contributions in 2006, J.R. Turner defined project governance as: "The Governance of a project involves a set of relationships between the project's

management, its sponsor (or executive board), its owner and other stakeholders. It provides the structure through which the objectives of the project are set, and the means of attaining those objectives and monitoring performance are determined."

In this discussion we will go through the various facets of Project Governance. The term 'Project' and 'Governance' in details and then the discussion will cover the nuances of 'Project Governance'.

1.1 PROJECT MANAGEMENT

1.1.1 Defining a Project

A project is a dream of an entrepreneur or group of entrepreneur that is translated in to a technically feasible and economically viable business. It is based on the basic business ideas generated from the surroundings we live in.

Project management is the discipline of initiating, planning, executing, controlling, and closing the work of a team to achieve specific goals and meet specific success criteria. A clear and accurate project management is critical for the success of a project. The definition process consists of setting clearly defined objectives, determining the key success criteria and evaluating the risks involved.

The Project Definition should include a statement of the need that the project aims to address and a description of the deliverables that will be its output. It should have the purpose , goals, scope, performance criteria, measurable objectives, key success criteria, project deliverables, project constraints (time, resources, performance criteria), risks involved etc. Its mission and vision should have clarity about the scope of business.

Generally Projects have the following characteristics:

- Start and end point
- Attempt to achieve something new
- It should be able to meet mission and vision of the corporate
- It must be technically feasible and economically viable

The primary challenge of project management is to achieve all of the project goals within the given constraints.

Some basic terms and concepts on Project management that needs clarification are discussed here:

Task

A task is an activity that needs to be accomplished within a defined period of time. Tasks are generally pieces of work that require effort and resources and have a concrete outcome or deliverable.

In theory a task can be of any size. Indeed, a project could be regarded as a very large task. However, the term task is normally used to refer a smaller piece of work.

Tasks take place over a period of time and usually consume resources. Projects are made up of tasks, sometimes grouped together into work packages. In practice, the term task can be applied to almost any project activity. Task durations can be long or short and there can be huge variations in costs and resource requirements.

The deliverables from many small tasks may be combined together to create the deliverable for a larger task. For example, a project manager may be allocated the task of producing a project plan. This task may involve obtaining information from a number of people. Each meeting could be regarded as a task in its own right. Some of the people the project manager meets with, may also have to carry out tasks themselves in order to provide the required information. For task completion (WBS) Work Breakdown System is applied which in itself is an activity for the project team.

Resource

Resources can be defined as the personnel, equipment, materials and services required to complete tasks in a project. These resources are termed as inputs.

- *Personnel* are the people employed in an organisation to work on a project or task.
- *Equipment* is the machinery allocated to the project, whether mechanical or electronic, e.g. machines, computers etc. the type of equipment varies widely based on the type of project and its size.
- *Materials* are the property that may be included in or attached to a deliverable or consumed or expended in performing a task. They include assemblies, components, parts, fuels and lubricants, raw and processed materials, and small tools and supplies. Here a competent material resource planning (MRP) is required.
- *Services* are areas where labour is expended without producing a tangible commodity, e.g. accounting, secretarial or legal services, security and safety. These are not directly involved but help indirectly to get the work done smoothly.

Schedule

Time is the essence of a project. Any delay adds to the cost of a project. In government of India project several projects were delayed increasing the cost of the projects by about 100% and did cost more than rupees one lac crore.

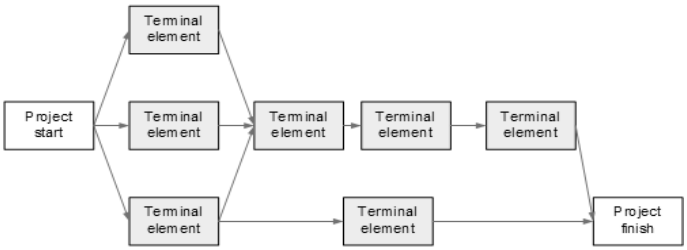
A schedule is a timeline of events and activities which can be used as an operating timetable. It can be presented on a calendar framework or on an elapsed time scale and specifies the occurrence, times of events and the relative start and finish times of activities.

The schedule specifies the timing and sequence of tasks within a project, as well as the project duration. It consists mainly of tasks, dependencies among tasks, durations, constraints and time-oriented project information.

A display of project time allocation, in the form of milestones, deliverables, activities or Gantt charts, is often referred to as the project schedule. In modern practices PERT and CPM are used which have scientific basis using computing. It is faster, accurate and less time taking.

Project network

It is a graphical representation depicting the sequence in which a project's activities or tasks are to be completed by showing these elements and their dependencies. It is always drawn from left to right to reflect project chronology.



Source : https://en.wikipedia.org/wiki/Project_network

1.1.2. Project Life Cycle

The project life cycle consists of four phases: initiation, planning, execution (including monitoring and controlling) and evaluation.

The Initiation phase begins by defining the scope, purpose, objectives, resources, deliverables, timescales and structure of the project.

The next step is to develop a Business Case, including several possible solutions and a cost/benefit analysis for each. A Feasibility Study should then be carried out to ensure that the chosen solution is feasible and has an acceptable level of risk.

The next step is to define the Terms of Reference, followed by the appointment of the project team.

The final step is to carry out Phase Review before seeking approval to proceed. The first step of the Planning phase is the creation of a detailed Project Plan which the project manager will refer throughout the project to monitor and control the time, cost and quality of the project.

The project manager will then create the following plans:

- *Resource Plan* : to identify the staffing, equipment and materials needed
- *Financial Plan* : to quantify the financial expenditure required
- *Quality Plan* : to set quality targets and specify Quality Control methods

- *Risk Plan* : to identify risks and plan actions needed to minimize them
- *Acceptance Plan* : to specify criteria for accepting deliverables

Finally, a Phase Review is carried out to assess the deliverables produced to date and approve the start of the Project Execution phase. During the Project Execution phase the project team produces the deliverables while the project manager monitors and controls the project delivery by undertaking:

- *Time Management* : tracking and recording time spent on tasks against the Project Plan
- *Cost Management* : identifying and recording Stage wise costs against the project budget
- *Quality Management* : reviewing the quality of the deliverables and management processes
- *Change Management* : reviewing and implementing requests for changes to the project
- *Risk Management* : assessing the level of project risk and taking action to minimize it. This is termed as risk mitigation using the expertise of the team
- *Issue Management* : identifying and resolving project issues
- *Acceptance Management* : identifying the completion of deliverables and gaining the customers acceptance. Customer who shall be using the project must get satisfied
- *Communications Management* : keeping stakeholders informed of project progress, risks and issues. Within the project team members there must be a smooth and clearer communication that helps in faster action.

Once the deliverables are accepted and a Phase Review has been carried out to determine whether the project objectives have been achieved, the project is ready for Closure. A Project Closure Report should list all of the actions required. When this has been approved, the listed actions are completed to release project resources, hand over deliverables, and inform all stakeholders that the project is now closed. Shortly after the project has been closed, an Evaluation (also known as a Post-Implementation Review) should be carried out to determine the project's overall success and find out whether the benefits stated in the original Business Case were actually realized. Any lessons learned should be documented for future projects. It is said that the project team should not leave the place immediately after the completion of the project rather they should stay for a reasonably good period and learn from the mistakes or problems faced. For project team it is a learning stage and avoids repetition of similar mistakes in future projects of similar nature.

1.1.3. Managing Risk in Projects

It is pertinent to discuss Risk in the management of Projects, as because of its'

very nature nothing can be said with certainty about the completion time and cost involved. Risk involves the chance where actual differ from the expected. Risk includes the possibility of losing some or all of the original investment/ efforts. Risk is usually measured by some measure of dispersion usually the Standard deviation or Range. Sometimes it turns to uncertainty, where no prior information is available and hence no objective assessment is possible.

Frank Knight summarized the difference between risk and uncertainty thus: "… ncertainty must be taken in a sense radically distinct from the familiar notion of Risk, from which it has never been properly separated. … The essential fact is that "risk" means in some cases a quantity susceptible of measurement, while at other times it is something distinctly not of this character; and there are far-reaching and crucial differences in the bearings of the phenomena depending on which of the two is really present and operating. … It will appear that a measurable uncertainty, or "risk" proper, as we shall use the term, is so far different from an un-measurable one that it is not in effect an uncertainty at all." In short, quantifiable uncertainty is referred as risk. Risk analysis is done to quantitatively or qualitatively assessing the risks.

Risk management is the use of risk analysis to devise management strategies to reduce risk.

In project management the discussion is important; because of the non repetitive nature of project activities, it becomes difficult to address the following questions:

- Will the project go over schedule?
- Will the project overrun its budget?
- Will the output of the project fail to satisfy the goals?

At the beginning of a project and throughout its duration, the answers to these questions are unknown, but attempt are made to ascertain them to the extent possible. Each of these elements therefore subjected to a risk analysis, to help project managers decide whether the project is in danger of failing to meet its commitments and whether or not anything can be done to improve the project's chances of success.

Schedule Risk

Schedule risk is the risk that the project takes longer than scheduled time for completion. It can lead to cost risks, as longer projects always cost more, and to performance risk, if the project is completed too late to perform its intended tasks fully and economically. There are specific techniques and tools available to mitigate risk involved in Projects.

Gantt chart is one such technique used for schedule risk analysis, developed by Henry Gantt in 1917. A Gantt chart gives a graphical summary of the progress of a number of project activities by listing each activity vertically on a sheet of paper, representing the start and duration of each task by a horizontal line and then representing the current time by a vertical line. This makes it easy to see

where each activity should be and to show its current status. It is simpler to draw and understand and adopt it even at lower level. It is good for smaller projects which are less complex in nature.

Many tasks require that prior tasks are completed before they can be initiated, but unfortunately, Gantt charts are not a good method of showing the interrelationship between tasks, so computers must be used to set up and maintain the network of tasks. One commonly-used technique is Program Evaluation and Review Technique (PERT) which uses a detailed diagram of all anticipated tasks in a project, organized into a network to represent the dependence of each task on those that must precede it.

PERT can be used to analyze the tasks involved in completing a project, especially the duration of each task, and identify the minimum time needed to complete the total project. PERT makes it possible to schedule a project without knowing the precise details and durations of all the activities. Through PERT the time can be crashed (reduced) by using higher level of resources.

The Critical Path Method (CPM) is another project planning and management technique which also uses a network representation. Earlier versions did not try to estimate probability distributions for task durations, making it easier to derive the critical path, i.e the set of tasks that determined the final project length. Various enhancements were made to CPM to allow alternative resource allocations to be explored, within specified cost constraints.

A more detailed discussion on these techniques is given separately at the end.

Cost Risk

Cost risk is the risk that the project costs more than budgeted. It can lead to performance risk if cost overruns lead to reductions in scope or quality. Cost risk can also lead to schedule risk if the schedule is extended because not enough funds are available to complete the project on time.

The main technique used for cost analysis of complex projects is based on the Work Breakdown Structure (WBS) which organizes project tasks into hierarchical stages or phases.

WBS is a project management technique for defining and organizing the total scope of a project using a hierarchical tree structure. The first two levels, known as the root node and Level 2, define a set of planned outcomes representing the entire project scope. At each subsequent level, the children of a parent node represent the entire scope of their parent node.

A well-designed WBS describes planned outcomes instead of planned actions. Outcomes are the desired ends of the project and can be predicted accurately, whereas actions make up the project plan and may be difficult to predict accurately. A well-designed WBS makes it easy to assign any project activity to one and only one terminal element of the WBS. Here we observe that the projects are broken in to smaller work pieces. It is said "one cannot eat an elephant in one go" and the answer is WBS.

Performance Risk

Performance risks include the risks that the completed project, when complete, fails to perform as intended or fails to meet business requirements that justified it. Performance risks can lead to schedule and cost risks if technological problems increase the duration and cost of the project. In case the output is lower than projected in a project report the project may turn to be a non profitable venture. That means it may be become economically non viable.

The methods used for schedule and cost risk analysis are similar for all types of projects, but methods of performance risk analysis can depend more on subject area. Quantifying the relationships between different aspects of performance can be difficult.

Political Risk

Take the case of Nano car project at Singur West Bengal where the project failed. It was a death in the womb. Rattan Tata gave a statement to ET "I lost a bad 'M' but God provided me a good 'M'". The place and country should be politically stable.

Technological Risk

When the technology is old and is changing very fast the age of technology needs to be ascertained and bridging the gap in time is most necessary. Take the case of smart phones and computers where product life is very less. Winding up of Hindustan Motors, Premium Automobile Limited (PAL), Western TV and Onida TV are the fittest examples of failure due to technological risks. Apart from this Tata Steel that is a more than 100 years old company is still surviving due to continuous upgrading the technology.

Location-Risk

It should be located nearer to material resources; cheap and adequate labour should be available including fuel (coal and gases). Suitable examples shall be Steel plants nearer to ore mines and thermal power plants nearer to coal head.

Environmental Risk

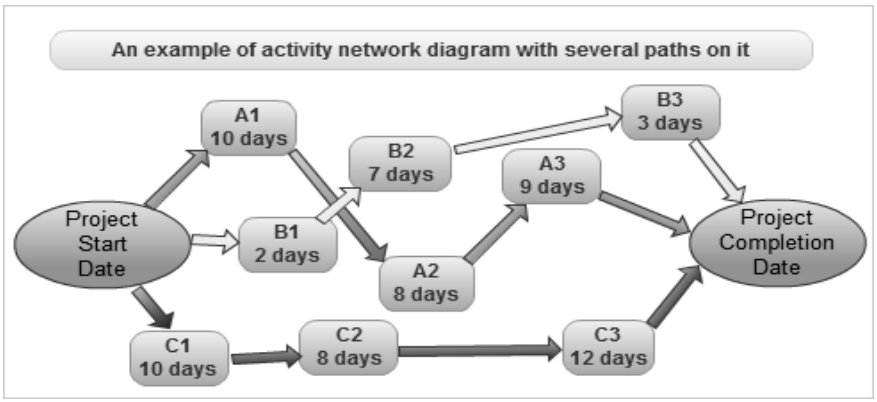
In some selected places projects emitting smoke and dangerous chemicals are not allowed. Like in the states around Himalayan range, projects burning coals like cement plants, steel plants and even thermal power plants are not permitted. To save the environment government has laid down stricter norms for the upcoming projects and that should be followed.

1.1.4. Project Management tools/techniques

Critical Path Method

The Critical Path Method or Critical Path Analysis, is a mathematically based algorithm for scheduling a set of project activities. It is an important technique for effective project management, commonly used with all forms of projects, including construction, software development, research projects, product

development, engineering, and plant maintenance, among others.... Any project with well defined interdependent activities can apply this method of scheduling.



Source: http://www.mymanagementguide.com/basics/critical-path-project-management/

CPM is one of several related techniques for doing project planning. We know that a project is made up of a number of individual "activities", and some of the activities require other activities to finish before they can start, making the project a complex web of activities.

CPM can help to figure out:

- how long a complex project will take to complete
- which activities are "critical," meaning that they have to be done on time or else the whole project will take longer time

If the information about the cost of each activity, and costs involved to speed up each activity is available, CPM can help to figure out:

- Whether to speed up the project, and, if so,
- What is the least costly way to speed up the project.

In this regard it is important to understand an activity. As already defined earlier in this discussion, an activity is a specific task that gets something done. An activity can have the names of any other activities that have to be completed before this one can start and projected normal time duration to complete.

For doing cost analysis, following information is pertinent about each activity:

- a cost to complete
- a shorter time to complete on a crash basis
- the higher cost of completing it on a crash basis

CPM analysis starts after all the individual activities in the project are figured out. CPM calculates the longest path of planned activities to logical end points or to the end of the project, and the earliest and latest that each activity can start and finish without making the project longer. This process determines which activities are "critical" (i.e., on the longest path).

Critical path therefore is the sequence of activities which add up to the longest overall duration. It is the shortest time possible to complete the project (to complete all activities). Any delay of an activity on the critical path directly impacts the planned project completion date. A project can have several, parallel, near critical paths. An additional parallel path through the network with the total durations shorter than the critical path is called a sub-critical or non-critical path.

CPM analysis allows a user to select a logical end point in a project and quickly identify its longest series of dependent activities (its longest path).

The essential technique for using CPM is to construct a model of the project that includes the following:

- A list of all activities required to complete the project (also known as Work Breakdown Structure)
- The time (duration) that each activity will take to completion
- The dependencies between the activities
- Trace that path that consumes highest time – which is critical path.

CPM calculates:

- The longest path of planned activities to the end of the project
- The earliest and latest that each activity can start and finish without making the project longer
- Determines "critical" activities (on the longest path) …
- Prioritize activities for the effective management and to shorten the planned critical path of a project by: †
  a. Pruning critical path activities – by providing additional resources
  b. † "Fast tracking" (performing more activities in parallel)
  c. † "Crashing the critical path" (shortening the durations of critical path activities by adding resources). This increases the cost of the project but sometimes it becomes essential to meet the time of completion as demanded by the customer or circumstances.

CPM Approach

Phase I: †

- Break project into operations necessary for completion
- Determine sequential relationship of operations

  (Every operation must have event to mark commencement – i.e. completion of preceding operation)

Phase II:

- Create time estimates for each activity. For timing of each time element the formula accepted is (a+4b+c)/6, where 'a' is the earliest time of completion, 'b' is the most likely time of completion and 'c' is the longest time of completion.
- Determine earliest possible start date, earliest possible finish date , latest start & finish
- Determine "free float" and "total float" †
- Revised after completion of Phase III

Phase III:

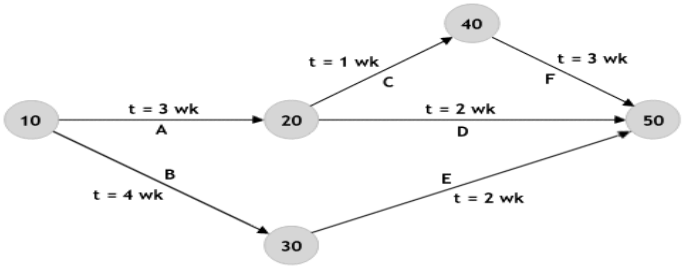
- Establish time-cost relationship
- Establish scheduling variations
- Determine most favorable balance between time-cost
- All-Crash Start – least time, higher cost

A spreadsheet like Microsoft Excel, or a specialized project management package like Microsoft Project can be used to carry out Critical Path Analysis.

Project Evaluation and Review Technique (PERT)

Critical Path Method uses a fixed time estimate for each project activity. It provides a trade-off between Project completion time and resource deployed. It is easy to understand and use, but it does not take account of the time variations that can impact on the completion time of a complex project. Completion time of any activity on a project network cannot be taken with certainty but there is always an variation in it making it probabilistic in nature. The Program Evaluation and Review Technique (PERT) is a network model that allows for variations in activity completion times and therefore estimates the project completion time with more accuracy. In a PERT network model, each activity is represented by a line (or arc), and each milestone (i.e. the completion of an activity) is represented by a node. A simple example is shown below.

A simple PERT network



Source: https://www.technologyuk.net/computing/project-management/pert.shtml

The critical path is the pathway through the project network that takes the longest to complete, and will determine the overall time required to complete the project. In a complex project with many activities and task dependencies, there can be more than one critical path through the network, and that the critical path can change. In the above example ACF is the critical path that takes longest time of seven days. Identification of all Critical paths on the project network is essential for managing the projects.

PERT planning involves the following steps:

1. *Identify activities and events* - the tasks required to complete the project, and the events that mark the beginning and end of each activity, are listed in a table.

2. *Determine the precedence relationship between activities* - this step may be combined with step 1, if the order in which activities must be performed is relatively easy to determine.

3. *Construct a network diagram* - using the results of steps 1 and 2, a network diagram is drawn which shows activities as arrowed lines, and milestones as circles. Software packages are available that can automatically produce a network diagram from tabular information.

4. *Determining the various estimates of time required for each activity* – there are three estimates: most optimistic time, most pessimistic time and most likely time. Any consistent unit of time can be used, although days and weeks are a common.

5. *Determine the critical path* - the critical path is determined by adding the activity times for each sequence and determining the longest path in the project. If the activity time for activities in other paths is significantly extended, the critical path may change. The amount of time that a non-critical path activity can be extended without delaying the project is referred to as its slack time.

6. *Update the PERT chart as the project progresses* - as the project progresses, estimated times can be replaced with actual times.

PERT also identifies activities that have slack time, and which can therefore lend resources to critical path activities. This helps in reducing critical path and thereby reducing overall project completion time. One drawback of the model is that if there is little experience in performing an activity, the activity time estimate may simply be a guess. Another more serious problem is that, because another path may become the critical path if one or more of its associated activities are delayed, PERT often tends to underestimate the time required to complete the project. The critical path helps the project manager in close-monitoring and control of the project.

PERT incorporates uncertainty by making it possible to schedule a project while not knowing precise details and durations of all activities. The time shown for

each project activity when creating the network diagram is the time that the task is expected to take based on a range of possibilities that can be defined as:

- *The optimistic time* – It is the minimum time required to complete a activity/task
- *The pessimistic time* – It is the maximum time required to complete a activity/task
- *The most likely time* – It is an estimate of activity/task completion time which is more realistic.

The expected time (the time that will appear on the network diagram) is defined as the average time the task would require if it were repeated a number of times over a period of time, and can be calculated using the following formula:

Expected time = (optimistic time + (4 x most likely time) + pessimistic time) / 6

The information included on the network diagram for each activity may include:

- the activity name
- the expected duration
- the earliest start (ES)
- the earliest finish (EF)
- the latest start (LS)
- the latest finish (LF)
- the slack

In order to determine these parameters, the project activities must have been identified and the expected duration of each calculated. The *earliest start* (ES) for any activity will depend on the maximum *earliest finish* (EF) of all predecessor activities (unless the activity is the first activity, in which case the ES is zero). The *earliest finish* for any activity is its *earliest start plus* its *expected duration*.

The latest start (LS) for an activity will be equal to the maximum earliest finish of all predecessor activities.

The *latest finish* (LF) is the latest start plus the expected duration.

The slack in any activity is defined as the difference between the earliest finish and the latest finish, and represents the amount of time that a task could be delayed without causing a delay in subsequent tasks or the project completion date. Activities on the critical path by definition have zero slack.

A PERT chart provides a projected estimate of the time required to complete a project, identifies the activities on the critical path, and makes dependencies (precedence relationships) visible. It can also identify the earliest and latest start and finish dates for a task, and any slack available. Resources can thus be diverted from non-critical activities to those that lie on the critical path. This is

done to prevent project slippage, if the need so arise. Because of the variation in activity completion time there is some variance in Project completion as well. Variance in the project completion time can be calculated by summing the variances in the completion times of the activities in the critical path. This has made PERT a probabilistic technique that allows the probability of the project being completed by a certain date to be determined (this will depend on the number of activities in the critical path being great enough to allow a meaningful normal distribution to be derived). PERT charts can become unwieldy, however, if the number of tasks is too great. The accuracy of the activity duration estimates will also depend on the experience and judgment of the individual or group that make them.

Gantt charts

Gantt charts are used to show calendar time task assignments in days, weeks or months. The tool uses graphic representations to show start, elapsed, and completion times of each task within a project. Gantt charts are ideal for tracking progress. The number of days actually required to complete a task that reaches a milestone can be compared with the planned or estimated number. The actual workdays, from actual start to actual finish, are plotted below the scheduled days. This information helps target potential timeline slippage or failure points. These charts serve as a valuable budgeting tool and can show Rupees allocated versus Rupees spent.

To draw up a Gantt chart following steps are required:

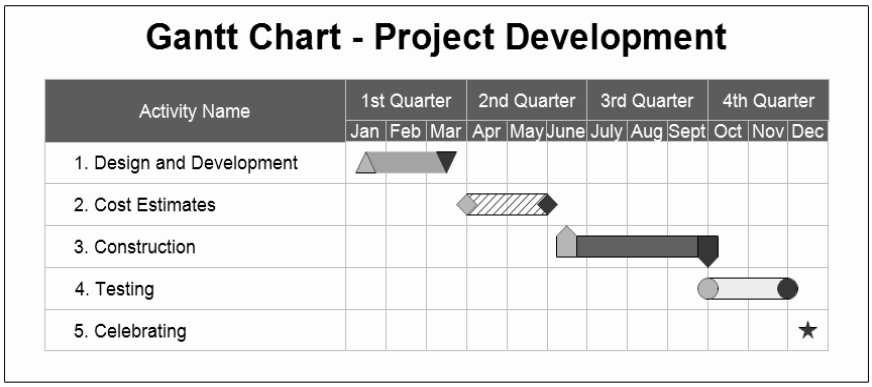
1. List all activities in the plan. For each task, show the earliest start date, estimated length of time it will take, and whether it is parallel or sequential. If tasks are sequential, show which stages they depend on.

2. Head up graph paper with the days or weeks through completion.

3. Plot tasks onto graph paper. Show each task starting on the earliest possible date. Draw it as a bar, with the length of the bar being the length of the task. Above the task bars, mark the time taken to complete them.

4. *Schedule activities.* Schedule them in such a way that sequential actions are carried out in the required sequence. Ensure that dependent activities do not start until the activities they depend on have been completed. Where possible, schedule parallel tasks so that they do not interfere with sequential actions on the critical path. While scheduling, ensure to make best use of the resources available, and do not over-commit resources. Also, allow some slack time in the schedule for holdups, overruns, failures, etc.

5. *Presenting the analysis.* In the final version of Gantt chart, combine the draft analysis with the scheduling and analysis of resources. This chart will show when the jobs are anticipated to start and finish. An example of a Gantt chart is given below:



Source: http://www.rff.com/project_development.htm

Benefits of using a Gantt chart include:

- Gives an easy to understand visual display of the scheduled time of a task or activity.
- Makes it easy to develop "what if" scenarios.
- Enables better project control by promoting clearer communication.
- Becomes a tool for negotiations.
- Shows the actual progress against the planned schedule.
- Can report results at appropriate levels.
- Allows comparison of multiple projects to determine risk or resource allocation.
- Rewards the project manager with more visibility and control over the project.

1.2 Project Governance

1.2.1 Traditional View of Governance

The term Governance has got its root in the Latin term 'guberbare' and 'gubernator'. The role of a steward of a ship is the general interpretation of governance. The word governor has also got its genesis from here. In the present global business environment the 'Board of Directors' have been entrusted with this important role of ensuring governance in an organisation. Project governance has got its root in corporate governance and therefore it is important to present a brief on Governance over here.

Accountability has existed with trading for ages now. However, with the changing dimensions of the business across the globe the structure and nature of responsibility fixation has also changed gradually. In a landmark published work, The Modern Corporation and Private Property (1932), Adolph Berle Jr and

Gardiner Means advocated for separation of ownership and control. The central idea was of this work was to suggest ways to safeguard the interest of shareholders with the growing size of corporations.

In the year 1962, Richard Eells (Columbia Business School) published his book the Government of Corporations. This contribution from Eells gets the credit to bring in circulation the term 'Corporate Governance'. The most related meaning of the term corporate governance since then is focused on control of business of corporations with prime objective of accountability fixation.

Defining Corporate Governance can be done using the statement of the OECD Principles of Corporate Governance: "Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined."

Clarke (2004) in his contribution 'Theories of Corporate Governance: The Philosophical Foundations of Corporate Governance' made a mention of the two schools of governance namely 'The Shareholder School' and 'The Stakeholder School'. The first school (The Shareholder School) recommends that governance committee has an important task of maximizing the returns of the shareholders. One of the challenges posed is to achieve profits in the short run along with maintaining growth in long run. The second school (The Stakeholder School) emphasise on the role of the governance committee towards the interest of all stakeholders including the internal and external customers and society at large.

The role of Board of Directors (BOD) has evolved over the years and as the core of an organisation's governance system. The environment in which the organisation operates is dynamic and therefore complex. The responsibility of the BOD in this context may be judged in the terms achievements, style and system for managing or controlling the affairs, formulation of policies and the actions for execution of such policies. The regulatory bodies across the globe have created an environment for good governance by prescribing the best practices of effectiveness for individual directors and overall board.

Traditionally, governance has been viewed as the relationship between the Board and the CEO with a focus on the financial performance and regulatory compliance. The governance function of organisations' may include the following activities/operations:

1) Establishment of board policies in such a manner that the values, principles and rules are clearly spelt out.

2) Establishing the mission, vision, goals and objectives

3) Appointment of capable and competent chief executive officer to execute the values, principles and rules in the best interest of all the stakeholders. Delegation of responsibilities and corresponding authority is also done.

4) Deriving the strategic goals and finalising the tools to monitor performance and achievements against set standards.

5) Ensuring regulatory compliance and acting as a figure-head to manage organisation image and communications.

6) Identification of nature and quantum of various risks and possible ways to mitigate the same.

In practice governance exists all around and percolates down to the level of individual projects.

1.2.2 Aims of Project Governance

The Association of Project Management (APM) has suggested certain aims for good project governance as under:

1. One of the aims is to establish a clear link between corporate strategy and project objectives.
2. The second aim is to ensure clear ownership and leadership from senior management.
3. The third aim is focused on engagement with stakeholders.
4. The fourth aim is to develop organisational capability.
5. The fifth aim is to liaison with the supply industry at senior management level.
6. The sixth aim is to evaluate project proposals on the basis of their value instead of cost of capital.
7. The seventh aim is focused towards breaking down the task into manageable components so that the implementation may be done effectively and efficiently.

Major recommendations of studies for good governance.

Based on Hampel(1998), Turn bull (1999), Higgs(2003) and Smith report (2003) Following major code of corporate governance were recommended:

- At least half of the board of directors should be non executive directors, also termed as independent director.
- Company's CEO should not be a chairman.
- Board chairman should be independent or appointed.
- One independent director should be used to serve the cause of share holders.
- Institutional investors should avoid box-ticking at the time of appraisal of the projects or at monitoring stages.

For India based on the reports of CII (1998), SEBI (1999), Ganguli Commitee

(2002) Naresh Chandra committee (2002) some of the major recommendations were laid down for proper Corporate Governance which were:

- Share holders (investors) should have right to vote, right for proxy and right for information.
- Full board should meet six times a year.
- Limited company with more than Rs100 crore turn over should have professional non executive Independent Directors (30%).
- Active participation in the board by all board directors.
- Compensation to directors should be adequate to retain them.
- Listed company having a turnover of Rs100crore or paid up capital of Rs.20 crore should create an audit committee.
- Auditors should be outsiders having no relation with any board member or company's activity.
- Board should evaluate performance of management, CEO, and misuse of fund.
- There should be more independent directors.
- Financial institutions (lender) should put one independent director as nominee director.
- Audit committee should help directors and board for proper use for fund based on budget.
- Financial reporting standard has to be maintained.
- In case of banks, they should have more than 50% directors as independent directors.
- For transparency accurate and timely information to be given.
- Auditor must be independent, disclose his liabilities, disclose his qualifications and should submit certification of independence on annual basis.

1.2.3 Principles of Project Governance

Eleven principles of good governance of projects have been suggested by APM.

The first principle is that the board of directors shall take complete onus for the governance of projects. The compliance regimes in the present environment require the board of directors to be able to predict the future cash flows. Predicting the future cash flows requires the ability to predict outturn cost and future return for all large projects, programs, and portfolios.

The second principle is that the roles, responsibilities and performance parameters for the evaluation of governance of projects must be clearly defined.

The third principle suggests that the project life cycle must have defined arrangements if governance which must be suitably supported by appropriate methods and control.

The fourth principle recommends that sufficient representation of the members of delegated authorization bodies must be ensured. The competence to effectively and efficiently utilize recourses is also required to take decisions. The authorization body may include project steering committees comprising sponsor, owner, project manager etc.

The fifth principle advocates that a coherent and supportive relationship must be ensured between the overall corporate strategy and the project portfolio management.

The sixth principle suggests the board to meet its duties under compliance regimes; the board shall utilize sound and realistic data so that valid predictions are made based on such knowledge.

The seventh principle focuses on authorization points or the touch points for end-of-stage reviews. It is essential to establish well defined authorization points so that the approved plans can be reviewed and approved on case to case basis. The emphasis shall be to put the project manager in control and empower him to take decisions.

The eighth principle suggests creation of clearly defined key performance indicators (KPI). These KPI helps in identifying the immediate problem and escalating risks and issues to appropriate levels.

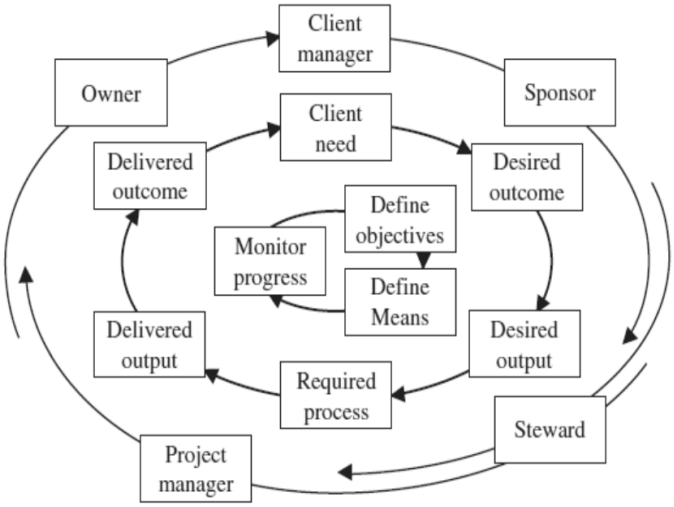
The ninth principle provides guidelines about the time when independent audits of projects, programs, and management systems shall be carried out by the board and its delegated agents.

The tenth principle suggests that project stakeholders shall be engaged at levels which are appropriate for their importance so that trust and cooperation can be fostered.

The eleventh principle focuses on fostering culture of transparent project reporting through continuous improvement and frank discussions. The aim of the organizations shall be to be a learning organisation by avoiding competency traps.

1.2.4 Governance Structures and Roles on Projects

Governance is a complex issue and a formidable structure is required to set the pace for effective governance. Distinct role and actions of a number of professionals are involved in establishing governance of projects. Let us first understand these integrated concepts with the help of a diagram as adopted from the contribution of J.R. Turner through which effective governance of projects can be ensured.



Source: J.R. Turner 'The Handbook of Project Based Management' pg: 313

In the above structure the core loop contains the three steps of governance which are

(i) *Define the objectives*

Objective setting is one of the most crucial and defining stage for a project. One of the most common yet very relevant tools to set objectives is SMART.

- Objectives must be 'Specific'. Specific objectives are well defined are clearly conceptualized so that any team member involved in the project can understand the requirements as defined by the objectives.
- Objectives must be 'Measurable'. Measurable objectives are defined in a phase wise manner. The completion or non-completion of a phase shall easily demarcate the percentage of project completion.
- Objectives must be 'Agreed-upon'. Agreed-upon objectives take care of the concern of the various stakeholders of the project. It is important that the objectives must be have a consensus arrived at before action. Consensus on objectives helps in reduction of conflict of interest and duplication of efforts. It also helps in establishing better team work and coordination.
- Objectives must be 'Realistic'. Realistic objectives are those which are justified by the material resources, human resources and technology possessed. The objectives shall be finalised in such a manner that achieving them turns out to be a real possibility and not a hypothetical or impossible one.

- Objectives must be 'Time-Based'. Time management for projects is one of the most important aspects. Fixation of tenure of completion shall be done in such a manner that neither too much nor too little time affects the performance of the project.

(ii) *Define the means and tools for achieving the objectives*

Having set the objectives as discussed above the next important task is to identify the means and tools for accomplishing these objectives. It is generally advised to identify three alternatives which shall be very close on various parameters. One of such parameters is the responsiveness. The degree of responsiveness of the alternatives may be measured in the terms of requirements of the project being fulfilled. Another such parameter is feasibility and suitability of the alternatives. Risk and constraints involved with an alternative is also one of such parameters. The affordability in the sense of financial feasibility of the alternatives must be ascertained keeping the opportunity cost in consideration.

The best possible alternatives as identified here is selected for implementation on the project with requirement to continuous feedback and monitoring.

(iii) *Define the process of monitoring the progress*

The progress of project in the direction as determined while setting the objectives is required to monitored regularly and continuously. The feedback mechanism is established to support monitoring and evaluation of the project. The feedback mechanism helps the project management team to comply with the standards sets. Establishing a system of trust and transparency is also ensured through a proper feedback and progress monitoring process. The combined impacts of these activities lead to improvement in the overall performance of the project.

The intermediary loop reflects the reasons for the existence of the core loop. Let us understand the elements of intermediary loop one by one.

(i) Client need

The client need can be considered as the initiation point of this entire structure. Need constitutes the problems for which solutions need to be developed by the project management team.

(ii) Desired outcome

The client need as identified above may be related to new building, information technology, manufacturing, design etc; and is defined as the desired outcome. The desired outcome can be obtained by developing new capabilities which will solve the problems and explore new opportunities.

(iii) Desired output

The desired outcome helps the organisation to define the change that

is required to be delivered. This change is defined as the desired output.

(iv) Required process

Well defined processes are required to be rolled out so that the desired outcome can be shaped into delivered output.

(v) Delivered output

The delivered output shall be in line with the desired output. The delivered output is used as the means to achieve the desired outcome in the form of delivered outcome.

(vi) Delivered outcome

The delivered outcome is the probable solution to the problems as identified from the client needs. The delivered outcome shall be aligned and improved to meet the client need. It may so happen that map the client need and delivered outcome many iterations of may be required to redefine the problems and opportunities. The advent of new capabilities may lead to new standards of output and outcomes.

The outer loop contains the various roles which enable effective governance of a project. These roles are discussed below:

(i) *Client Manager*

The client manager is the connecting link between the other roles at the various initial stage of the project.

(ii) *Sponsor*

The sponsor handles an important task of identifying the need for performance improvement. The change that can be made for performance improvement in a cost-effective way is also determined by the sponsor. This role starts with defining the objectives in terms of goals, outcomes, and outputs. The role of sponsor is important throughout the project and begins with the identification of the problems to be solved or opportunities to be exploited. The broad guidelines for various stages are determined by the sponsor. The budgets may be hold by the sponsor and released at various suitable stage.

(iii) Steward

A project is always in need of a technical expert. The technical expert guides others on issues like acquisition of new facilities and assets. In this capacity the technical expert acts as a 'Steward' who generally is a senior manager from the technical department and works in close coordination with the sponsor.

(iv) *Project Manager*

Once the Sponsor and the Steward have set the pace for the project the 'Project Manager' carries out various managerial functions to ensure proper

execution of the desired set of activities. Such execution is ensured through monitoring and controlling the already defined objectives and process for the deliverables. The project manager's responsibility ends with the delivery of the new capabilities. He is a leader of the "project team consisting of different experts"

(v) *Owner or Business Change Manager*

The owner and business change manager are roles start once the new capabilities are received. The responsibility of implementing the change and improving the performance lies on the owner. However, many a times the owner delegates the responsibility to dedicated business change manager/s for effective and efficient utilization of the new capabilities of the project.

These roles are essential. The responsibility of championing the project from initial stage to implementation stage is covered by these roles in a distinct manger at each level. Generally the sponsor and the owner are from the user department and the project manager is from the technical or projects department. The sponsor may have a general tendency to consider all possible positive outcomes from the project. However, the role of steward is to counter balance by doing a realistic assessment and thus steer the project in a right direction.

Roles

1.2.5 Characteristics of good Project Governance

Effective governance of projects leads towards better decision making. The discussion on Characteristics of 'Project Governance' will revolve around five important pivots which are as follows:

1. *Sponsorship and Accountability*

A general observation is that failure of a project may not often be directly attributed to the performance of project managers and project teams. Sometimes, project failure may be caused by contextual factors, such as the failure of mechanism of governance by project sponsor. The project sponsor holds a vital position of being accountable for providing a link between the project requirements and the project management (which ultimately reports to the Executive Board).

The objectives of the organisation and the initiatives of a project cannot be aligned if the governance from the sponsor is weak. The governance of sponsor on the project may be weak not only in terms of resources but also in providing specific and timely direction. Therefore, the sponsor has the onus to clearly define roles and responsibility to bring accountability at various levels. In several cases the sponsor changes the project mission by changing its size and they also delay the payment for resource creation and these activity force a delay in the project.

2. *Transparency and well-defined communication channels*

   Transparency can be reflected by the decisions taken and the enforcement done. The channels of communication shall be well-defined in an open and easily understood way. Well-defined communication channel has information available freely and directly accessible for all those who may be affected by the decisions and execution of such decision. It is also important that adequate information in terms of quality and quantity. Such clear and concise availability of data is essential to ensure the enforcement of Accountability; such communication channels may be used as a vehicle to power the governance model of the projects.

3. *Effectiveness and Efficiency with Responsiveness*

   The success of any project depends on delivering the desired output and minimizing various types of errors along with optimum utilization of the resources of the organisation. Responsiveness is the attribute of accomplishing long term and short term objectives within pre-defined time frame. Responsiveness is achieved from the availability of accurate information in line with the delegation of authority and responsibility. Some tools which support high level of responsiveness on the projects may include Project dashboards, reporting matrices and performance metrics.

4. *Participatory, Equitable and Inclusive*

   It is recommended that governance of project ensure and embed the environment of participative management on the project. Such high level of participation requires open and clear channels of communication. The participants which include Sponsor, Steward, Project manager, Third party vendors, Business change manager etc. need to take responsibility collectively yet distinctly at the same time. The task at the hand for effective governance is to reach a broad consensus among various stakeholders. The project management office plays a crucial role in arriving upon project deliverables, processes and monitoring mechanism by consensus. Once these set of activities are programmed with consensus of the stakeholders the responsibility is shared in an equitable and inclusive manner.

5. *Legality*

   One of the most important characteristics of good governance of projects is to ensure that the project never lands into any legal conflict. The role of the Board of directors is most important in this regards as to ensure that the project activities are carried out by complying the various legal frameworks applicable on the project. It is advisable that a clearly spelt out set of do's and don'ts is arrived upon with consensus and the final list is duly circulated to each of the stakeholders.

1.2.6 Components of the Governance of Projects

The APM has recommended the components for the management of project.

These components in the form of diagram are being presented here and subsequently discussed:

Portfolio Direction

The APM has recommended a list of guidelines for 'Portfolio Direction'. The first recommendation is that the organization's financial controls, financial planning, and expenditure review processes must be applied to the individual projects and the portfolio as well.

The second recommendation is that a clear line of distinction may be drawn between activities that are managed as projects and those which are non-project activities.

The third recommendation is that there shall be an alignment of the key business objectives with the project portfolio. Such objectives may include customer service, profitability, growth etc.

The fourth recommendation is that project portfolio shall be able to support the strategy and take account of the external factors.

The fifth recommendation is that the organisation shall assess the risks associated with the project portfolio.

The sixth recommendation is that the capacity of the organisation must be ascertained periodically and the portfolio shall be consistent with such capacity.

The seventh recommendation is that the suppliers mapped with the projects shall be brought on a common platform for a shared understanding on the risks and rewards.

The eight recommendation is that the customers must be engaged in such a manner that the portfolio gets in to a sustainable position.

The ninth recommendation is that the sources of finance shall be engaged in such a manner that it encourages a sustainable portfolio.

The tenth recommendation is that conflict between the ongoing operations and the project portfolio is minimal. The two shall be aligned in synergy to promote organisational growth.

Project Sponsorship

The importance of sponsorship has already been discussed in the various roles in the section 'Governance Structures and Roles'. The recommendation of APM has been clearly spelt out in this regards. Let us understand them one by one.

The first recommendation in this regards is that projects should have competent sponsors all the times.

The second recommendation is that a provision of clear and timely release of the funds from the sponsor must be ensured.

The third recommendation is that the involvement of the sponsor of the project must be in such a manner that they devote enough time to the project.

The fourth recommendation is that the sponsor shall ensure the access of sufficient resources to the project managers. Monitoring the skills of the project managers for efficient utilization of such resources must be also ensured.

The fifth recommendation about sponsorship is that the accountability for realization of benefits and modalities of maintenance of business case must be determined beforehand.

The sixth recommendation is that the sponsors of the project must be sufficiently aware of the project status through regular meetings with the project managers.

The seventh recommendation is that the project must be completed in time. Period review by sponsor is required to accomplish this task.

The eight recommendation is that independent and unbiased advice of professional be sought for objective appraisal of the project.

The ninth recommendation is that the representation of the projection shall be done uniformly throughout the organisation by the sponsors.

The tenth recommendation is that interest of the stakeholders (suppliers, regulators, financiers etc.) shall be aligned with the success of the project.

Project Management

Project Management is one of the vital components of the governance of projects. APM has listed out ten recommendations for project management to ensure effective corporate governance.

The first recommendation that board shall be assured that appropriate project management processes are implemented on the project.

The second recommendation is that the critical success criteria for the projects shall be clearly determined and the decision making is duly informed to sponsors.

The third recommendation is that key factors for success are identified for the projects and such information must be reported to the sponsors.

The fourth recommendation is that the project management roles and responsibilities shall be in place with clarity.

The fifth recommendation is that the board shall be assured of the project managers' competence and capability. The ability of the project managers to satisfactorily deliver the project outcomes must also be ensured.

The sixth recommendation is that delegation of responsibilities and corresponding authority shall be structured in a manner so as to achieve the right balance between efficiency and controls.

The seventh recommendation is that the delegation of authorities shall be done in such a manner that is aligned with estimation of the project contingencies.

The eight recommendation is that a set of appropriate risk management practices are adopted to avert undesired events or to mitigate the impact of such events on the project.

The ninth recommendation pertains to the efficiency and responsiveness of the service delivery. The service departments and their suppliers shall be able and willing to maintain a pool of key resources to manage the deliverables with changing needs.

The tenth recommendation is related with provision of a favourable project environment for project managers to facilitate them with opportunities that improves the project outcomes.

Disclosure and Reporting

Governance on projects can be ensured through the quality and quantity of information. The role of the governance committee of the projects is to manage and gather relevant and reliable information at a specified time. Such information will help the organisation to identify and distinguish the key drivers of success from key indicators of success. An efficient and distinct reporting structure and process, for each project including the risk, complexity and importance, will help the organisation to flourish with successful projects. Disclosure requirements increase the value of verification of information and leads to a culture of open and honest environment. Therefore, all the stakeholders with lawful interest in the project information shall be brought under the purview of disclosure requirements. APM has recommended a checklist of activities to ensure effective disclosure and reporting structure in the organisation.

The first recommendation is to avoid the duplication of disclosure and reporting responsibilities. The quality of information received by the board must not be compromised and a system to check the same shall be duly instituted.

The second recommendation is to establish a system to measure key success drivers and key success indicators including the significance, complexity and risks involved.

The third recommendation is about the timely receipt of information. Such information must also be reliable and hold close relevance to the project requirements. On the basis on such information the project forecasts for each step of the project life cycle shall be determined.

The fourth recommendation is to acquire such tools which can differentiate the project forecasts from the project outcomes on the basis of the targets and commitments.

The fifth recommendation is about circulation of timely and relevant information about the project progress so that the monitoring can be done effectively.

The sixth recommendation is that the reporting requirements of the projects shall be pruned to the bare minimum and at the same time covering all which is necessary.

The seventh recommendation is to pre-define the threshold criteria for escalation of issues. The critical levels of performance and responsiveness must be clearly defined.

The eight recommendation is that a clearly defined policy about the independent verification of information of the portfolio and reported projects must exist.

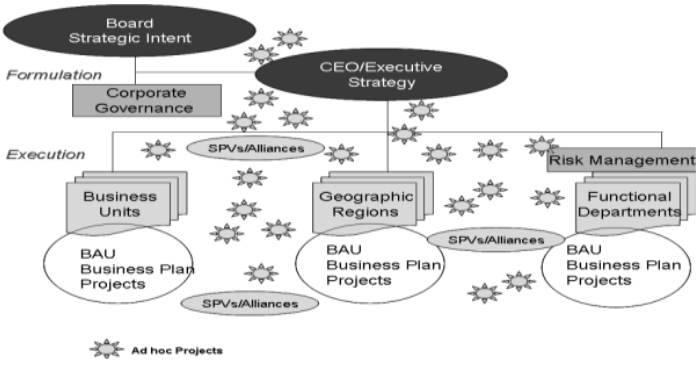
The tenth recommendation is that the project environment must facilitate open and honest reporting. The provision of whistle blowers and ombudsman must be there in place.

The above recommendations help the board of directors and the governance committee to track the project progress in light of the disclosure regime.

1.2.7 Models of Project Governance

The organisational strategy needs to be achieved in efficient manner by adopting a project management approach for strategic objectives. Approach of an organisation on project management enables the organisation to roll out effective governance at various levels. The contribution of Butler (2008), "Governance in the Boardroom: How Project Management can deliver organisational strategy" is of great importance in this regards. He suggested four models of project governance which are being discussed here.

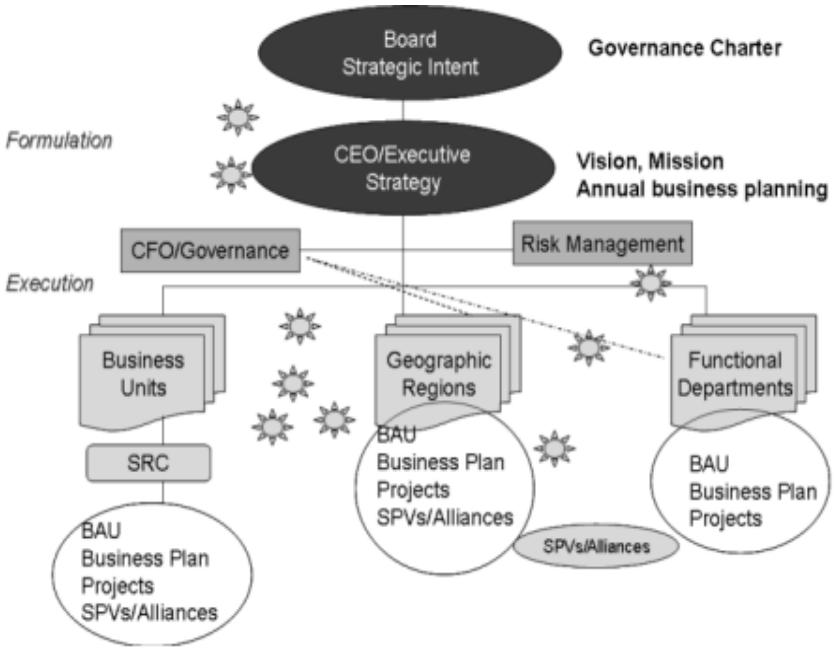
1. *Planned Approach Model*



Source : "Governance in the Boardroom: How Project Management can deliver organisational strategy". Butler, Y. (2008)

The first approach is related to an organisation where the organisational maturity is in its initial stage. This model creates the picture of an organisation which deploys project governance in an ad hoc and inconsistent manner. The planned approach focuses on the individual plans and the overall project management is generally missing. The organisation structure is formed in such a manner that the strategic intent as provided by the Board may vary considerably. The governance policy is inclined generally towards the Board conduct. However, if it is focussed towards the organisation it will generally be tilted on the finance and compliance aspects. The role of the CEO is not aligned with the governance objectives of the Board and as a result the CEO may have own ways to develop set of activities and get them implemented. In this model the 'Business units' and 'Functional departments' will be limited to the deliverables from their operation. The inflow of project happens randomly in the absence of formal selection criteria or approval process because the organisational hierarchy is not effective. Varied risk management tools and project management methodologies may be exist however with changing patterns.

2 *Managed Approach Model*

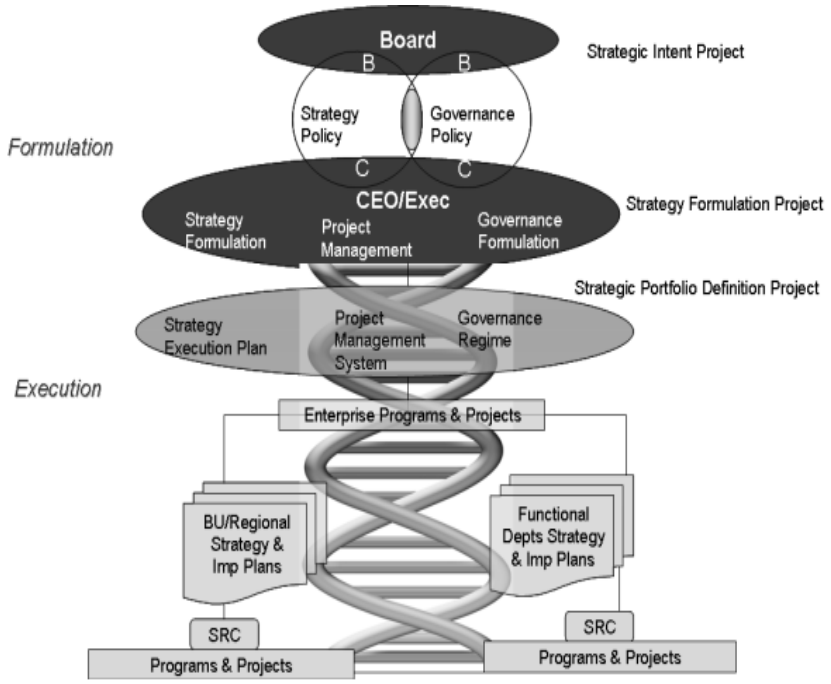


Source: "Governance in the Boardroom: How Project Management can deliver organisational strategy". Butler, Y. (2008)

The managed approach model (moderate organisational maturity) has more

formalised and consistent approach in formulating the strategy and monitoring the implementation. The process to manage risk is clearly documented. The governance capability and project management activities are viewed distinctly. The governance charter here is focussed on compliance and financials along with guidelines for its own operations and the organisation as a whole. In this approach the strategic intent is translated into vision and mission. A mature annual business planning process is adopted in this model. The responsibility of corporate governance is entrusted in a Chief Financial Officer (CFO) who will be ultimately responsible for evaluating and approving the new ventures. The strategic fit and financial viability of the projects are monitored by the CFO. The projects still flow on ad hoc basis and are focussed on the current year budget. The Business units may remain limited to their operations however some 'Functional departments' may introduce a line governance process.

(3) *Integrated Approach Model*

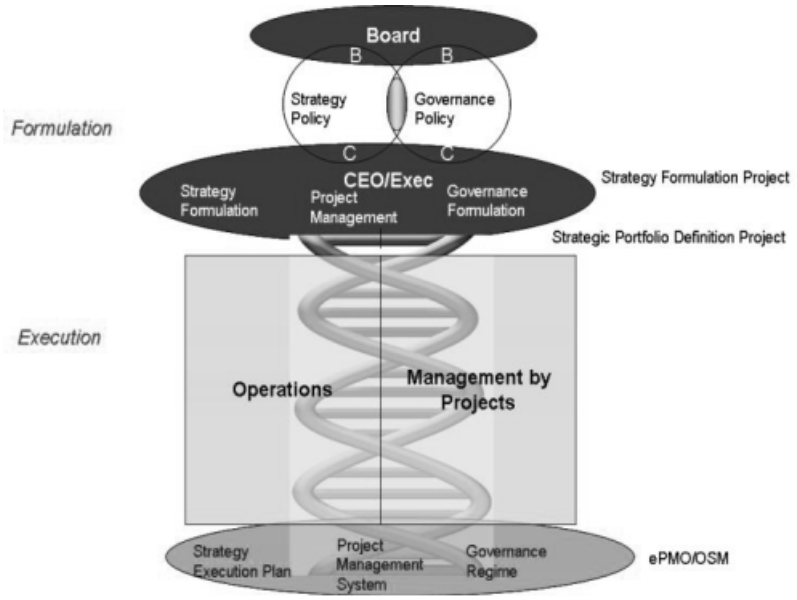


Source: "Governance in the Boardroom: How Project Management can deliver organisational strategy". Butler, Y. (2008)

Significant level of organisational maturity exists for organisations which have capacity to adopt the Integrated Approach. The concept of governance and project management is embraced by the organisation as strategic enablers. The Board develops the Strategy Policy and Governance Policy. Such policies

have dual focus on the internal working of the Board and the operations of the corporation. The role of the CEO and is focused on Strategy formulation, Project Management and Governance Formulation. These activities are carried out in the line of Strategy Policy and Governance Policy already designed by the Board. The CEO also formulates the protocols for strategic review and corporate reporting. Management of risk is one of the most crucial functions carried out by the CEO. In this approach the 'Business units' and 'Functional departments' develop detailed implementation plans and align them with the organisational strategy. Decision are made with help of techniques of participative management using agreed criteria upon strategic intent, risk, complexity, time, financials etc. The ad hoc projects are replaced by properly scoped and approved enterprises.

(4) *Optimized Approach Model*



Source: "Governance in the Boardroom: How Project Management can deliver organisational strategy". Butler, Y. (2008)

It is one the most matured models and leads to creation of project-based organisation. Here the systems and structures are so intertwined that the organisation may achieve economies of scale and economies of scope. The structures and systems in these organisations are very dynamic to meet the requirements of the changing business environment. These agile organisations have the ability to create and recreate new structures based on the risk and complexity of the project.

***

2

Project Governance : Opportunities for Governance Professionals

The roles of the Governance professional have evolved to corporate planner and strategic managers. In the modern era the governance professionals have become a polymath. Specialised skills set are required for specific industries to be a successful corporate planner and strategic mangers. As discussed in the first section (Project Governance Conceptual Framework) the global business is gradually drifting its focus on management of projects and a requirement has arrived to define project governance separately for specific industries. In this section we will discuss the opportunities and responsibilities of governance professionals with focus on Project Governance.

2.1 Guidelines for Project Portfolio Governance

The corporate governance audit recommendations have been used as the basis to suggest the following Project Portfolio Governance Guidelines.

1. *Harmony of Direction* – The organizations strategic objectives and the project objectives shall be aligned to eliminate repetition of efforts and ensure a wide coverage of activities.
2. *Opportunity and Risk Assessment* – Every opportunity has a cost to avail it in the form of risks and challenges to be faced. Such assessment of the feasibility of the Project on the basis of opportunity cost must be ascertained. The consequences of the activities in terms of direction and magnitude must be determined.
3. *Validity* – The project and its activities must be designed in such a logical sequence that it meets the strategic objectives of the organisation.
4. *Accomplishment* – The quantum and frequency of realization of the goals and objectives of the project must be determined. The perception of prospective customers about the organisation is desired to be satisfactory.
5. *Efficiency and Responsiveness* – The strategy Managers have the responsibility to efficiently utilize the resources. The productivity and output shall be monitored as per the pre-defined timelines. The response time to adapt the changes must be monitored.
6. *Financial Management* – The work-in-progress should be maintained and proper financial management of project assets shall be ensured. Provisions for safeguarding the tangible assets are also recommended. The expenditure at each stage should be reviewed and compared with the planned expenditure. In case of wide variance it should be analysed and added financial need to be raised in time.

7. *Work Environment* – Human resources shall be managed in such a manner that they deliver best in line with their ability. A favourable environment to create synergy shall be maintained by adoption of transparent policies.
8. *Reporting* – Establishment of effective high-level of reporting structures on the project and also to the corporate management is recommended. Such reporting structures ensures timely completion of the project deliverables and integrating their intended benefits to overall organisational objectives.

2.2 Diligence Checklist for Projects

- Considerations from the institutions that are involved in the approval and award of the projects must be well documented.
- A well-defined process for pre-feasibility and feasibility studies should be in place. The procurement process and approval guidelines must be made transparent.
- The delegation of responsibility for monitoring the projects on financial aspects shall be clearly defined.
- As the global business is shifting, towards a regime of regulations, it has become important to identify the interface to work in close co-ordination of the regulatory bodies.
- A well-structured framework for enforcement of environmental laws and fixation of liabilities and penalties for offence must be determined. Processes which must be followed to ensure environmental and social safeguards must also be decided.
- A protocol of interaction between parties involved in the project must be in place. The frequency and conditions of such interaction must be clearly outlined.
- In this era of international collaborations guidelines for foreign investors shall be clearly spelt out.
- Dispute handling mechanism for the must be informed to all the parties involved. Such mechanism shall be objective and must have proven sub-systems.
- Project professionals may be exposed to varied risks on different projects. Therefore, provisions for safeguarding employer and employee interests must be clearly carved out of the Labour Laws.

2.3 Tasks of Governance Professional for Projects

The governance professional have to take wide range of duties. The skills and attributes of the governance experts must be aligned in such a manner that it helps the organisation to create desired financial, social, and environmental impact. The governance professional has to understand the long-term strategy of the business and strive for activities which ensure sustainability to the business.

Project management activities have therefore moved in the expertise area of governance professionals. This means that the governance professionals and the strategy managers must develop a holistic understanding of the projects and business of the organisation. In this section, the desired holistic understanding of the projects for governance professionals is being dealt with.

2.3.1 The Project Governance framework

The framework of Project Governance gets initiated at the project start up and follows several processes which result in taking decisions and implementing them. Documenting these activities is vital for the success of project. The arrangements for governance must be aligned in such a manner that the key stakeholders of the Project Board may review and restructure it if desired at any stage of the project progress. The framework must provide guidelines for assessing justification of continuation of the project. The following must be covered in the project governance framework:

(a) Justification for accepting and continuing the project

(b) Planning the managerial structure to carry out the project operations

(c) Decision making structure with clearly defined roles, responsibilities and levels of authorities

(d) Establishment of a strategic framework with short and long term plans with flexibility to meet the dynamic changes in the environment. The focus here must be towards managing problems which arise due uncertainties (opportunities and threats)

(e) Safeguarding the interest of the stakeholders

(f) Setting up and operating a project monitoring and control regime.

2.3.2 Essential elements for Effective Project Governance

(a) Selecting the right Projects

It is essential to identify the core team of the client who will be in discussion to provide direction at various levels of the evolution of the project. Identification of this primary customer must be followed by the process of understanding of the goals and objectives with which the project shall be steered through. These goals and objectives must be documented and further developed to be incorporated into the project plan. Completion of this activity brings out the context of the project, purpose of the project, possible impact and consequences which will be eventually required to be executed. At this stage the action plan for the deliverables must be finalised with the timelines and budgetary requirements. Before, developing the facilities on the project a recheck must be done to reaffirm the viability of the project. The planning, timelines and budgetary requirements may have certain assumptions which must be discussed with the primary customer and duly consented. Let us further get into better details on some mechanisms to determine whether the project shall be taken or not.

(i) *ROI*

Ascertaining the business value which a project brings to the organisation is very important. The value may be added in the term of capabilities like infrastructure, technology, procurement, technology, production, market development etc. If the organisation.

(ii) *Parameters for Measurement*

Defining the metrics is important to get the most value out of a project. It is essential to keep the focus on parameters of measurement and guidelines for standard operating processes. All these activities shall be aligned with the business goals. Information collection, analysis, synthesis and dissemination are required to create a fair and transparent environment on the project.

(iii) *Metrics to align corporate strategy with project*

It has been a general practice that part information flows to the executive team; as a result, in many cases the project requirements does not get fully aligned with the corporate strategy. Therefore, it is recommended here that guidelines for information sharing between the Board and the executive team must be there in place. The data pertaining to timelines, possible risks and their management, and changing requirements must be exchanged for effective alignment of the project performance and organisational goals. This means from top to bottom there should be clarity in reporting and communication. The communication should be justified and just in time. Any delay in communication and lack of transparency may delay the project or it may lead to cost overrun.

(iv) *Synergy*

As discussed above a collaborative effort of all the parties on the project need to be put. The Client, Vendors and Service providers on the project shall be working in close co-ordination to achieve the agreed upon goals and objectives. Adhering to metrics such as quality, safety and value shall be the work culture for everyone involved. If synergy on these metrics doesn't exist the project may always face challenges. The meeting with all involved must be held at a frequent interval to check any cause of delay or otherwise.

(b) Aligning Project values and Outcomes

The vision with which a project gets initiated is determined at the corporate strategy level. The task for professionals managing the project is to align the values of the project and the organisation. Such an environment at the project and in the organisation asks for excellence of execution at every level with an aim to deliver value at every stage. The business value derived from a project increases as the strategy deployed for it matures. To ensure the conversion of such strategy into high project value, it is recommended,

for organisations to establish a formal project management office. The value of each project shall be determined in measurable terms before it is advanced to stage of planning or further exploration. This activity may help the project team to focus on the final goals of the project and equips the company with tool to avoid investing in projects which may not deliver the best business results.

Defining the value helps the business units to align with the project goals. This in chain ensures everyone involved in the project and its benefits agrees with the processes and remains committed to them. As the whole team believe in the value of the project they champion their activities in such a manner that integrated project management efforts across the organization takes place. Series of such events creates business benefits which are evident and qualified easily.

(c) Project priority establishment and dissemination

It must be ensured that timely and appropriate information is generated and distributed for the project. Communication is an integral and important part of a project. A document in the structure of 'communication management plan' must be generated to guide the project communications. It must define and it required design the methods and channels of communication. The dynamics of the external and internal environment must be taken in consideration while conceptualising the communication management plan.

The focus on content of information varies for different roles on the project. The interest area for project sponsor and key stakeholders may be towards periodic status of the project, position of finances and variances in cost, adherence to timelines etc. The interest area for the functional managers on the project may be focused towards the information related to the employees such as schedules and deadlines. It is desirable that the automation of communication demands is established to a great extent. Such automation reduces the probability of occurrence of misinterpretation due to loss of data.

Setting up a firm and agile escalation procedure is another important task to ensure effective governance of projects. The hierarchical levels to be contacted for specific degree of variance from the project plan must be determined beforehand.

From the discussion so far under this head, it can be realised that effective communication involves finalisation of a structure to determine the specific class of recipients with the modalities for routing the message. The message should be as lucid and specific to best extent possible. It is also essential to device measures to curb areas where misinterpretation may occur. Therefore, any critical activity must be reported throughout the project team and stakeholders with required filtration if any. These combined efforts for dissemination of appropriate information create an environment where the project team and the stakeholders remain focused on desired project deliverables.

(d) Estimating the project risk profile

Proper methods and channels shall be established to asses risks associated with the project. It is recommended that the quantitative risk analysis system is developed and deployed for effective governance of projects. The events of risk shall be preferably assessed on cardinal parameters. However, for cases where cardinal parameters are not available ordinal parameters may also be used. Use of such risk measurement tools creates more reliability on the processes of the project. The estimation of risk profile is a complex process due to behavioural dimensions of the human factors on the project. However, the objective of the establishment of system for risk assessment shall be made objective and free from bias till the best possible extent.

(e) Resource Management

Resource availability, corporate capacity and resource mobilization

Resource Management for Project can be explained as a series of initiatives to identify resources on the basis of strategic plans, activity priorities and production requirements. To establish and adopt best practices of resource management the following may be included:

- o A transparent system for demand generation to limit the impact of unplanned work which may hinder the key initiatives
- o Improvement of capacity building with skills based planning
- o Prioritizing the activities on urgency and aligning procurement according
- o Maintaining consistency in approaches to handle problems through well structured team

(f) Project Performance Indicators

The performance indicators on a project revolve around time management and the short and long term goals of the project. The work progress monitoring must be done through well-defined dashboard. The dashboard must have provisions to collect, group, organize and visualize the important metrics and provide a real time feedback on work performance.

In this section we have discussed how governance professionals can be effective in creating an impactful project governance environment by adopting certain guidelines and performing tasks. At, this stage few examples of the industry practices for Governance, Risk and Compliance (GRC) would further the benefits of this publication to the readers. The international economy is very positive about the professionals in the domain of GRC. Therefore, let us move to the next section which is focused on regulatory frameworks and industry practises on Governance, Risk and Compliance.

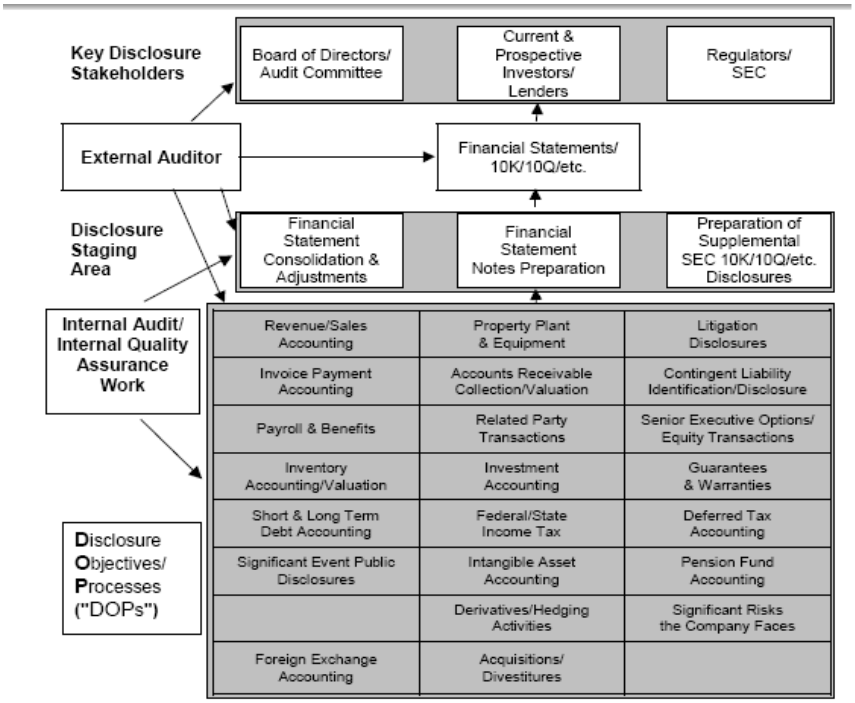
***

3

Regulatory Frameworks and Project Governance

3.1 Cost Effective Compliance Strategies

In one of the most comprehensive works on the regulatory frameworks for project governance, Tim. J. Leech has discussed on the various dimensions to be taken into account to ensure effective governance of Projects in the context of US economy. The provisions under section 302 and 404 of the Sarbanes Oxley Act have been presented in the image given below.



Source: Tim J. Leech, A White Paper Proposing Practical, Cost Effective Compliance Strategies, Pg.No:6

As it can be observed from the image that Key Disclosure Stakeholders need reliable information on the history, current financial status and future prospects of the company. Such information may be required to evaluate the organizations irrespective of the industry and the nature of business. Securities and Exchange Commission (SEC) recommendations have been discussed by Tim. However, few concepts may be applied and adopted for any economy in the world. One recommendation pertains to "Disclosure Staging Area" of the image which has mention of the following activities:

— Financial Statement Consolidation and Adjustments

— Financial Statement Notes Preparation

— Preparation of Supplement

The data necessary for the disclosures may come from a vast range of sources. Such sources have been depicted in the overview as "Disclosure Objectives/ Processes" ("DOPs"). Each DOP may contain an associated end result objective. Such objectives may be of timely and reliable disclosure about some sub-set of the disclosure package of the concerned organization. It may also pertain to a system or process which may include internal controls. The DOPs reflected in the image are not exhaustive and may vary with the size, complexity and the nature of the business of the organization. Some of the DOPs are highly automated. The flow of information to the Disclosure Staging Area is enabled through sophisticated computer systems. Partially automated DOPs are preferred where certain information are not shared for the sake of confidentiality . A few DOPs may be done manually due to significant involvement of levels of judgment. The DOPs must be able to deliver reliable and complete information to the Disclosure Staging Area.

Summary of Phases, Activities, and Lead Responsibilities

Phase/Activity	Lead Responsibility	Recommended Internal Auditor Roles
Planning		
Plan	Project Sponsor	Provide advice and recommendations. Participate in project team planning.
Scope	Project Team	Provide advice and recommendations. Participate in project team planning.
Execution		
Document	Line Managers; &/or Project Team; &/or Specialists	Advise management regarding processes to be used. Perform quality assurance reviews.
Evaluation & Testing	Line Managers; Project Team; Specialists	Independent assessor of management's documentation and testing. Perform effectiveness testing (for highest reliance by external auditors).
Issues	Project Team and Line Managers	Identify control gaps. Facilitate management discussions.
Corrective Action	Line Managers	Perform follow-up reviews.
Monitoring Systems	Senior Management	Perform follow-up reviews.

Phase/Activity	Lead Responsibility	Recommended Internal Auditor Roles
Reporting		
Management Reporting	Senior Management and Line Managers	Facilitate determinations (to report). Provide advice.
External Audit Reporting	External Auditor	Act as a coordinator between management and the external auditor.
Monitoring		
Ongoing Monitoring	Senior Management	Perform follow-up services.
Periodic Assessment	Project Team &/or Line Managers	Perform periodic audits.

Source: Internal Auditing Roles in section 302 and 404 of the U.S. Sarbanes Oxley Act of 2002, The Institute of Internal Auditors

The Institute of Internal Auditors has recommended role for internal auditors on a project. These roles are:

— Project Oversight

  * Participate on project steering committee providing advice and recommendations to the project team and monitoring progress and direction of the project.
  * Act as facilitator between external auditor and management.

— Consulting and Project Support

  * Provide existing internal audit documentation for processes under scope.
  * Advise on best practices documentation standards, tools, and test strategies.
  * Support management and process owner training on project and risk and control awareness.
  * Perform quality assurance review of process documentation and key controls prior to handoff to the external auditor.

— Ongoing Monitoring and Testing

  * Advise management regarding the design, scope, and frequency of tests to be performed.
  * Independent assessor of management testing and assessment processes.

* Perform tests of managements basis for assertions.
* Perform effectiveness testing (for highest reliance by external auditors).
* Aid in identifying control gaps and review management plans for correcting control gaps.
* Perform follow-up reviews to ascertain whether control gaps have been adequately addressed.
* Act as coordinator between management and the external auditor as to discussions of scope and testing plans.
* Participate in disclosure committee to ensure that results of ongoing internal audit activities and other examination activities, such as external regulatory examinations, are brought to the committee for disclosure consideration.

— Project Audit

* Assist in ensuring that corporate initiatives are well managed and have a positive impact on an organization. Their assurance role supports senior management, the audit committee, the board of directors, and other stakeholders.
* Use a risk-based approach in planning the many possible activities regarding project audits. Audit best practices suggest internal auditors should be involved throughout a project s life cycle not just in post-implementation audits.

The Institute for Internal Auditors further recommends that in considering which role(s) are appropriate for the internal audit activity, the following general factors should be considered:

* Having responsibility for specific operations results is a presumption of impairment of objectivity regarding that operation. Whether an internal auditor has taken on responsibility for specific operations will depend on the situation. In general, internal auditors who actively participate in making or directing key management decisions will have impaired objectivity.
* An internal auditors' objectivity is not impaired when the internal auditor recommends standards of control for systems or review procedures before they are implemented. The auditors' objectivity is considered to be impaired if the internal auditor designs, installs, drafts procedures for, or operates such systems.
* Consulting on internal control matters is a normal role for internal auditors and does not impair independence or objectivity. However, making key management decisions impairs the internal auditor s independence or objectivity.
* Devoting significant amounts of effort to a non-assurance activity may

not impair independence; however, the CAE should consider the impact (including risk) of performing non-assurance activities on completing the otherwise planned assurance engagements.

3.2 Concept Project Governance Framework

M.C.Bekker and H.Steyn with their contribution, 'The impact of project governance principles on project governance' in the year 2008, suggested a concept named Concept Project Governance Framework (CPGF). The contents of the CPGF as adopted from the work of Bekker and Steyn is being presented here.

A. Project Steering Committee

1. Composition	1. Core Competencies	
1. Core Competencies	• Project finance and cost management	
	• Business / project alignment	
	• Front-end-Loading management	
	• Crises response	
	• Industry knowledge	
	• International experience	
	• Leadership	
	• Strategic alignment capability	
	• Contract management capabilities	
	2. Steering Committee Size	
	Determined by project type, complexity and magnitude	
	3. Member Mix	
	Comprise members with direct interest as well indirect stakeholder representatives i.e. socio-economic and environmental	
	4. Chairperson Independent	
	The chairperson should be independent from any project stakeholders	
2. Responsibility	1. Committee Accountability	
	Overall accountability	
	Bridging the gap between the project and the immediate external and statutory environment	
	2. Charter	
	Development and adherence to project charter	

3.	Audit Committee to Board of Directors	1. Levels of Independence The project audit committee should be independent with the steering committee excluded from the audit committee 2. Project Literacy The Audit Committee should have extensive project experience on all aspects of LCPs
	B. Cost and Benefit Management	
1.	Financial Reporting Responsibility	1. Steering Committee Report against approved budget 2. Project Governance Charter Report on adherence to the charter
2.	Financial Disclosures	1. Project Finance For any financial activities outside the GAAP requirements, full disclosure will be required 2. Reports Project financial status to be reported on a quarterly basis 3. Corrections and Adjustments To be reported quarterly
3.	Internal Controls	1. Risk Management Process Formal risk management processes should be in place 2. Risk Management The steering committee must actively ensure that proper risk identification, quantification and mitigation planning is done on the project - not only the financials but covering all aspects of the project 3. Risk Disclosure Disclosures must be made about all the risks on the project during the total project life-cycle 4. Risk Certification Requirement for monthly certification by the chairperson of the steering committee regarding disclosure controls and procedures

C. Project Reviews and Audits

1.	Independence	1.	Objectivity Independence and objectivity of the project auditors and reviewers must be ensured
		2.	Scope Project reviews and audits should not be confined to adherence to in-house methodologies and practices, but should include items that the review / audit deems necessary to protect stakeholder interests
		3.	Rotation Auditors should have no direct or indirect interest in the project or in the contractors/ suppliers involved with the project
2.	Interaction with Companies	1.	Internal Charter The internal charter should include the approach towards the auditing of project management, the adherence to project methodologies, processes and agreed practices and the project team's functioning
		2.	Communication As with corporate governance, mandatory communication between the external auditor and the audit committee is required
3.	New Attestation Report	1.	Report External auditor must issue an attestation report on the project's internal control report
4.	Disclosure	1.	Non-audit services As with corporate governance, it is required that separate disclosure is made of the amounts paid to the external auditor for non-audit services together with a detailed description of the nature of services

		2.	Fees Requires disclosures of fees paid to a company's principal external auditor since project commencement
D. Ethical, responsible conduct and conflict of interest			
1.	Code	1.	Standards A code of ethics should be established and signed by each member of the steering committee. The code should include (as a minimum): • Environment • Social aspects • Socio-economical aspects • Conflict of interest guidelines
		2.	Adherence Adherence to the code of ethics should be disclosed and reported on a monthly basis
		3.	Disclosure Code should be made publicly available and any changes to the code or waivers from the code must be disclosed
2.	Compensation	1.	Performance Performance-related elements of compensation should represent a substantial portion of the total compensation package
3.	Safety, Health & Environment (SHE)	1.	Adherence SHE requirements should be to international standards as a minimum and supplemented by host country requirements
4.	Social	1.	Adherence Social and socio-economic considerations should be to international standards as a minimum and supplemented by host country requirements

The researchers carried out research on primary and secondary data (in the form of case studies) and concluded that formalization of project governance has become necessary due to increasing capital expenditure on projects. A proper definition of 'project governance' must be obtained for the project and a concept framework must be established beforehand. In these activities the level variety of skills required by the steering committee must be finalized. The study further recommended that the adherence to ethical and responsible conduct to check the conflict of interest must be given profound importance for successful governance of projects.

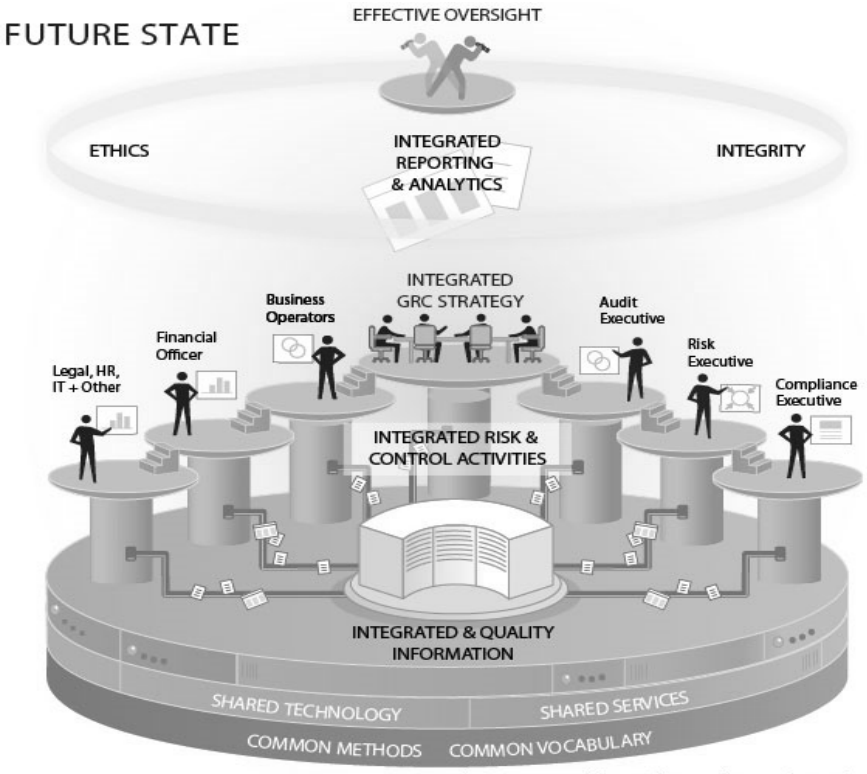
***

4

Governance Risk and Compliance

GRC – Governance, Risk & Compliance has been gaining more and more of importance in the current global economy. Banking, Financial services and Insurance firm have acknowledged it is as a very critical function. This includes departments like internal audit, compliance, risk, legal, finance, IT, HR and the board itself. In this section an effort has been made to bring out the GRC practices by organisations operating across various industries.

An image diagram can best explain the GRC framework

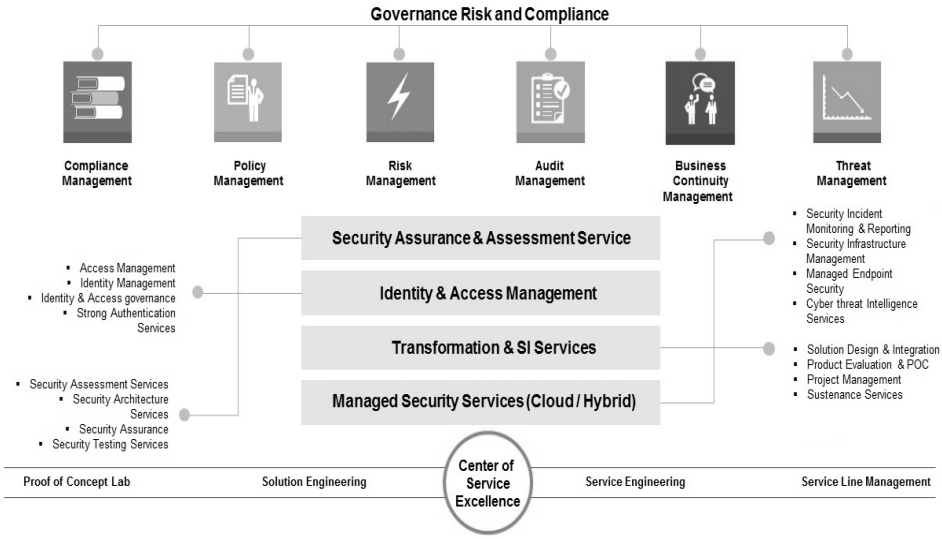


Source : OCEG, 2012

Industry Practices on GRC is being presented here for governance professionals to help them understand the industry requirements.

Each of the three elements of GRC (i.e. governance, risk assessment and compliance) is not a one-time activity. Growing regulatory requirements, evolving best-practices framework, new cyber-crimes and heterogeneous enterprise IT fabric has warranted that GRC processes need to be assessed time and again to ensure sufficient coverage at all times. Organizations have realized that GRC processes must be made into repeatable with higher flexibility to handle the agility of today's IT environments.

1. HCL



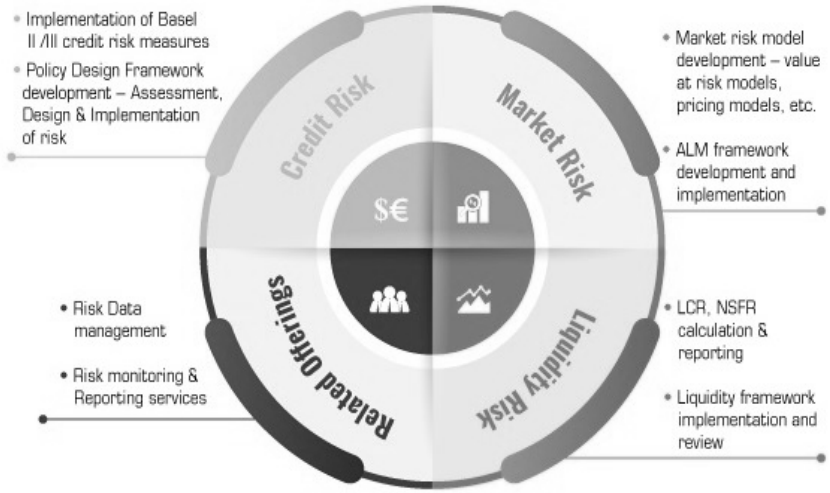
Source:http://www.hcltech.com/it-infrastructure-management/governance-risk-and-compliance-consulting

Benefits Offered

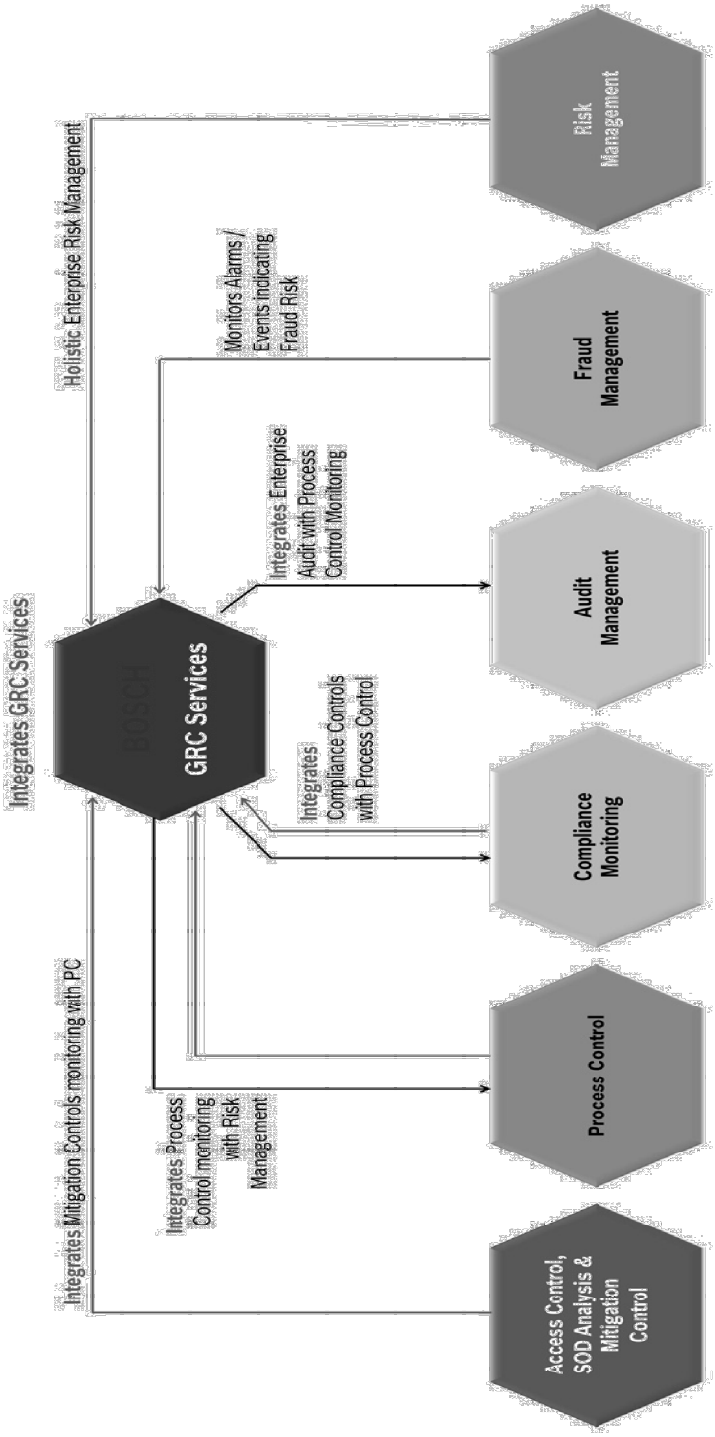
- Comprehensive & industry recognized integrated Governance, Risk & Compliance (GRC) called BRiCS™ framework which bridges the gaps between IT and Business and incorporates industry and geography specific regulatory & risk management needs
- Mature and proven Cyber Security Framework for assisting an enterprise's security transition & transformation programs which successfully covers the depth and breadth of cyber threats that impacts an enterprise's intellectual capital, reputation and its ability to run critical business functions
- Skilled and experienced professionals with hands-on expertise and diversified awareness on technologies for faster adoption of product skills to handle complex implementation

- Vendor Agnostic – solution design based on existing environment, requirements at hand and clients overall IT roadmap
- Leveraging our comprehensive knowledge-base created by HCL's Dedicated Center of Excellence for Cyber Security & GRC practice, through implementation experiences, PoC's developed and collaboration with our esteemed partners
- Flexible operating/pricing models for quick implementation cycles & tangible return on investment

2. Tech Mahindra



Source: http://www.techmahindra.com/industries/Enterprise/BFSI/BFSI_NEW/Banking/ServiceOfferings/GRC.aspx


Integrates GRC Services
Holistic Enterprise Risk Management
Integrates Mitigation Controls monitoring with PC
Integrates Process Control monitoring with Risk Management
Monitors Alarms / Events indicating Fraud Risk
Integrates Enterprise Audit with Process Control Monitoring
Integrates Compliance Controls with Process Control
BOSCH
GRC Services
Risk Management
Fraud Management
Audit Management
Compliance Monitoring
Process Control
Access Control, SOD Analysis & Mitigation Control

***

Annexure I

Project Guidelines for State Government Under National e-Governance Plan

PROJECTS AND COMPONENTS UNDER THE DOMAIN OF STATE GOVERNMENT

Under NeGP the following are the core projects and components which fall in domain of the State Governments (including local bodies):

State Mission Mode Projects

- Land Records
- Road Transport
- Property Registration
- Agriculture
- Treasuries
- Municipalities
- Gram Panchayat
- Commercial Taxes
- Police
- Employment Exchanges

Core Infrastructure Projects

- SWAN
- Data Centres
- Common Service Delivery Centres
- Back-end computerisation to provide services through the common service delivery centres

The State Governments have the flexibility of choosing and prioritising their e-Governance projects from the list mentioned above and could further supplement these initiatives with 3-4 more areas, based on their specific priorities. These projects would be implemented in a phased manner over the next 3-4 years.

SKILL SETS REQUIRED FOR SeMT & PeMT

Agencies from outside the Government set-up from where people would be taken for SeMT & DeMT having relevant experience in one or many areas mentioned below:

EXPERIENCE REQUIREMENT

Experience in Change Management

- Preparation of strategy/policy document for any of the State Departments
- Conceptualising / implementing a process improvement / re-engineering initiative
- Drafting Strategy and plans in IT projects

Experience in Information Technology

- Development of systems requirements specification for e-Governance projects
- Systems integration, solution architecting, developing software, etc.
- Computerisation of large organisations involving technology selection issues
- Project implementation / communication experience
- Knowledge about technology trends

Experience in Financial Management/modelling

- Implemented Public Private Partnership
- Financial project appraisals, viability analysis, etc.

Experience in Program Management

- Large project implementation and monitoring experience
- Enforce standards of design, version control, documentation, etc.
- Program management and operations control

FINANCIAL CRITERIA

- The Bidder should have an annual Turnover from consultancy services averaged over the last 3 years should be a minimum of Rs. 5 Crores (Rupees Five Crores).

GENERAL CRITERIA

- The Bidder should have completed at least three years of operations since date of its certificate of commencement of business.

CHECKLIST FOR COMMUNICATION REGARDING CHOICE OF AGENCY

1. Legal status of the designated agency (Company-Section 25 or ordinary / Society)
2. Linkage of the designated agency, if any, with the state IT/e-governance department

3. Nature of Business including full details of all IT, consulting and Public Private Partnership related activities
4. Location and contact details of the head office (including email id)
5. No. of offices within the state
6. Number of people on the payrolls
7. Annual Report for the last 3 years
8. Shareholding Pattern in case of company / Constitution of Board of Governors & members in case of Society
9. Memorandum of Association/Article of Association

Note :

There are inherent advantages and disadvantages of either designating an existing agency in the State or constituting a new 'agency' for the capacity building. The table below provides an assessment of the benefits and drawbacks of both the options. The State Government may take appropriate decision based on the circumstances.

	Advantages	*Disadvantages*
Existing 'Agency'	• Secretarial support in terms of manpower and systems • Established structure & mechanisms • Less lead time required to get Initiated	• Legacy issues • Positioning and capability of the agency for capacity building • Inadequate focus for CB
New 'Agency'	• Small, virtual organization • SeMT would be the main focus area • Drive and mandate for e-Governance	• Lack of basic support and structure – higher costs • Longer lead time for scaling operations • Greater co-ordination required for synergy

CHECKLIST FOR THE CAPACITY BUILDING PROPOSAL

Framework

The Capacity Building proposal should incorporate the following activities:

1. E-Governance Assessment of the State
   i. E-Governance Road map of the state government (If any)
   ii. Initiatives planned to be taken up by State Government under NeGP, from the list mentioned in Annexure I.
   iii. Ongoing e-Governance projects and their respective status

iv. IT infrastructure available or planned for near future

v. Financial commitment of the state government and other agencies including multilateral funding agencies, towards e-governance initiatives in general and capacity building in particular.

2. Number of people envisaged for SeMT. This should be detailed out with Broad Project Management Structure proposed to be followed w.r.t

   a. State Level for overall Program management

   b. Workload envisaged for supporting departmental project in the initial stages

3. The State Government plan for composition of SeMT with respect to within and outside the State Government. As detailed in the guidelines the designated agency would have to deploy a judicious mix of the two options (i.e From sources present within the Government or PSUs or any state agency or central agency and by engaging Consulting agencies having requisite skillsets.

4. The details should include the budgeted expenses and time lines for capacity building. It is assumed that the budgeted expenses are in accordance with the existing market rates for agencies with relevant experience

***

Annexure II

E-Governance Mission Mode Project : Crime & Criminals Tracking Network and Systems (CCTNS) by MHA Governance Structure of the CCTNS Project

The table below provides the committees /teams that form part of the governance structure and their roles and responsibilities as defined in the CCTNS implementation guidelines provided by MHA.

Committee / Team	*Roles & Responsibilities*
State Apex Committee	• Reviewing progress of the Project • Overseeing utilization of funds • Policy Directions and Guidance for successful execution of the Project • Ensuring continuance of Mission Leader for sufficient duration, and • Creating a supporting environment for the success of the project
State Empowered Committee	• Disbursement of funds to Districts and other units/agencies • Approval of BPR proposals • Sanction for various project components, as may be specified, including the Hardware/Software procurement as per the specifications from NIC • Approval of various Project Components and Functionalities to be covered in the Project • Review progress of the Project • Ensure proper Training arrangements • Ensure deployment of appropriate handholding personnel • Other important policy and procedural issues • Guidance to State/District Mission Teams

Committee / Team	*Roles & Responsibilities*
State Mission Team	• Operational responsibility for the Project • Formulating Project Proposals • Getting sanction of GOI for various projects • Hardware rollout and operationalization • Co-ordination with various agencies • Resolution of all software related issues, including customization • Resolution of all other issues hindering the Project Progress • Any other decision to ensure speedy implementation of the project • Assist the State Apex and Empowered Committees
District Mission Team	• Prepare District Project Proposal • Ensure proper Rollout of the Project in each selected Police Station • Ensure hardware and software installation, and operationalization of the Project • Training of all police personnel in the District • Site preparation and availability of all utilities • Ensure separate account keeping for the Project

Annexure III

Delhi Government time line for Project Governance and Management

S.No	*Activity / Deliverable*	*Time Frame End date (Weeks)*	*% Age of Contract Value*	*Revised Time Frame End Date (weeks)*
1	Kick off meeting, preliminary work, initial project team	X		X
2	Submission of Inception report with the detailed work plan, approach and methodology, Timelines	X + 1		X+2
3	Submission of preliminary assessment report including Market and demand assessment, skill centre and sectors planning, eligibility criteria for pre qualification,	X + 2		X+3
4	Market sounding	X + 3		X+4
5	Submission of draft Feasibility reports	X + 4	10 %	X+5
6	Submission of draft RFQ Document	X + 4		X+5
7	Submission of Advertisement and Issue of an advertisement for inviting EOI/RFQ by DTTE	X + 4		X+6
8	Submission of EOI/RFQ by interested parties	X + 8		X+10
9	Reports on pre - qualification of Bidders	X + 9	10 %	X+11
10	Site Visit by short listed parties	X + 9		X+12
11	Submission of Risk Assessment, allocation and Mitigation plan, governance and project management plan, regulatory mechanisms	X + 9		X+7

S.No	Activity / Deliverable	Time Frame End date (Weeks)	% Age of Contract Value	Revised Time Frame End Date (weeks)
12	Submission of Detailed Project Report including reference project and PSC	X + 9	10 %	X+12
13	Submission of draft RFP document and concession agreement with schedules and all supporting documents	X + 7		X+12
14	Bidders meet on the transaction structure and revenue model	X + 9	10 %	X+12
15	Submission of revised draft RFP document and concession agreement with schedules and all supporting documents including Project Information Memorandum	X + 9		X+12
16	Issue of RFP and invitation of bids by DTTE	X + 9		X+13
17	Holding of a pre-bid conference by DTTE	X + 10	20%	X+14
18	Issue an addendum to RFP (if required) by DTTE	X + 10		X+15
19	Submission of Technical and Financial Bids by bidders	X + 11		X+16
20	RFP Evaluation and Report on qualification of Bidders and the selection of successful bidders	X + 12		X+17
21	RFP Evaluation and Report on qualification of Bidders and the selection of successful bidders		10 %	X+18
22	Signing of concession agreements between DTTE and Successful Bidders. For this consultant shall assist in signing of CA as per the RFP.	As per RFP	10 %	

S.No	*Activity / Deliverable*	*Time Frame End date (Weeks)*	*% Age of Contract Value*	*Revised Time Frame End Date (weeks)*
23	Submission of report on project governance and management system, monitoring and reporting plan and a contract management plan/ manual. (Payment will be made upon successful handholding during the implementation phase from signing of CA for smooth and successful commencement of services and setting up of project management unit (structure) and contract management unit).	Within one week of execution of CA	20%	

References

ASSOCIATION FOR PROJECT MANAGEMENT (APM). 2004. A guide to governance of project management

ASSOCIATION FOR PROJECT MANAGEMENT (APM). 2009. A guide to the governance aspects of project sponsorship

Fondahl, John W., "Non-Computer Approach to the Critical Path Method for the Construction Industry", Report #9, Stanford University, 1961

Fondahl, John W. "The History of Modern Project Management – Precedence Diagramming Methods: Origins and Early Development". Project Management Journal. Volume XVIII. No. 2. June 1987

Herman Steyn & quot; The impact of project governance principles on project performance & quot;, PICMET 08 -

Hendrickson, Chris & Au, Tung, Project Management for Construction, Prentice Hall, 1989 … Weber, Sandra C., Scheduling Construction Projects: Principles and Practices, Prentice Hall, 2005

Knight, F.H., 1921, Risk, Uncertainty and Profit, New York Hart, Schaffner and Marx

Project Management Institute, Organizational Project Management Maturity Model, Newtown Square, Pa.: PMI, 2003.

Project Management Institute, A Guide to the Project Management Body of Knowledge, 3rd ed., Newtown Square: Project Management Institute, 2004.

PMI, 2013. A Guide to the Project Management Body of Knowledge 5th Ed. Project Management Institute, Newton Square, PA

Turner, J.R. 1999. The Handbook of Project-Based Management: Improving the Processes for Achieving Strategic Objectives, Second Edition. McGraw-Hill, London.

Turner, J. R. & Müller, R., Choosing Appropriate Project Managers: Matching their Leadership Style to the Type of Project, Newton Square, Pa.: Project Management Institute, 2006.

Turner, J.R., 2009. The handbook of project-based management: Leading strategic change in organizations, 3rd ed. McGraw-Hill, New York. …

Websites

http://www.technologyuk.net/computing/project-management/pert.shtml

http://www.mymanagementguide.com/basics/critical-path-project-management/

http://www.umsl.edu/~sauterv/analysis/488_f02_papers/ProjMgmt.html

http://www.sqa.org.uk/e-learning/ProjMan01CD/page_33.htm

http://www.rff.com/project_development.htm

http://www.sqa.org.uk/

http://www.palgrave-journals.com/

http://www.acerimmeronline.com/

https:// executiveeducation.wharton.upenn.edu

https://en.wikipedia.org/wiki/Project_network

***