Chapter - V

Presentation and Analysis of Field Survey data
5.1 Summary of the observations recorded during the Survey

The information was obtained from respondents, the PM professionals, with direct interview method using a questionnaire to help keep the interview in a structured manner. Comments and observations from the respondents have been noted and represented appropriately in the research study. The interview started with warm up discussions generally aimed at understanding the organizations and nature of projects they executed. Later it moved into discussions on PM practices as per questionnaire. The discussion ended by noting down the main reasons for projects getting delayed or failure in the project objective and best practices employed during the projects. Typical duration of the interview was around 60 minutes. Overall it was a pleasant experience of meeting more than 50 senior PM professionals in Bangalore and learning from them their experiences.

The study mainly focused about three sectors which comprise a total 48 respondents. The categories of respondents vary from the Project managers, senior managers from Information technology, Telecom, Infrastructure and government sectors. Out of 48 respondents 41.71 percent were from IT (Banking, finance, Retail, manufacturing) organizations, 37.45 percent from telecom (Operator, Vendors, Third party services) sector, 10.42% percent from government sector and 10.42% from Infrastructure industry.

Table 5.1 below provides summary of the sampling distribution adopted during the survey and Table 5.2 provides information on the Respondents profile.
Table 5.1 Sampling distribution for the survey

<table>
<thead>
<tr>
<th>Sl.no</th>
<th>Sector</th>
<th>Category</th>
<th>Quota %</th>
<th>Total Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IT</td>
<td>Banking</td>
<td>10.42%</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finance</td>
<td>10.42%</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retail</td>
<td>10.42%</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturing</td>
<td>10.42%</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Telecom</td>
<td>Operators</td>
<td>14.50%</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vendors</td>
<td>12.50%</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Third party service provider</td>
<td>10.42%</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Government</td>
<td>Government Departments</td>
<td>10.42%</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public Sector corporations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Infrastructure</td>
<td>Developers</td>
<td>10.42%</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TOTAL</td>
<td>100%</td>
<td>48</td>
</tr>
</tbody>
</table>

**Diagram:**

- **Project Managers**: 58%
- **Sr.Managers / General Managers**: 28%
- **Project Heads / Directors**: 14%
5.1.1. Project Organization

Private Sector:

Project Managers in IT & Telecom sector believe that their project organizations are structured on the principles of PMBOK (Project Management Body of Knowledge) and Infrastructure organization’s structure is customized. Most of PM’s believe their organizations are based on matrix project organization structure. They strongly feel that this structure ensure faster execution of projects. Project Managers also believe that matrix structure makes people within organization to work with multiple responsibilities towards common goal of project delivery. Project managers believe that there should be well defined, clearly charted out roles, responsibilities, authority, accountability which would enable all the project participants to synchronize their execution timeline with the planned timeline. PM’s expressed their difficulties when it comes to delegation of power, Project managers agrees that there is a lag in on time delivery due to frequent intervention by top management or unclear roles and responsibilities. Financial powers are very limited. In IT sectors PM’s are usually not vested with much financial power which they themselves defended by saying “it is not much necessary for us in IT business as everything is locked up in the initial stage itself our job is to ensure that things are met within the budgeted cost”. This is in contrast to PM’s in telecom & Infrastructure
sector believe that they require financial power in many cases to expedite the work or to take some crucial decisions. Customer & stake holders are identified in organization structure in IT, Telecom & Infrastructure businesses, in many cases project development team are expected to synchronize the timelines with that of the customers.

**Government and Public Sector:**

Government and Public Sector Organizations generally use Line organization structure. Project Managers strongly believe that this kind of organization structure works well in many cases. But it restricts people from undertaking cross functional activities / responsibilities. There is a clear delegation of power / schedule of powers and clear definition of roles and responsibilities to each project team member within the organization. Financial powers are clearly defined designation wise. Project Managers feels that governmental projects are delayed due to hierarchy present in each and every process of projects wherein approvals flow from bottom to top which is time consuming.

Government organizations do not follow international standards or guidelines on structure; they have their own departmental procedures/ guidelines and standards. Wherever required it conforms to the requirements of ISO as applicable. All government organizations are controlled administratively under particular Departments constituted under applicable act and under respective ministry.

Representation of data relevant to the above discussion is shown in the table as per details below. Chart 5.3.1 provides information on the type of organization adopted by companies. Chart 5.3.2 Project Organization encouraging communication and cooperation. Chart 5.3.3 (a) Responsibility is clearly defined in the Organization
Chart 5.3.3 (b) Authority is clearly defined in the Organization. Chart 5.3.3 (c) Accountability is clearly defined in the Organization. Chart 5.3.3 (d) Customers/Stakeholders are clearly defined in the Organization.

Chart 5.3.1 Type of Project Organization Structure adopted

![Chart 5.3.1](image)

Chart 5.3.2: Project Organization encouraging communication and cooperation

![Chart 5.3.2](image)
Chart 5.3.3 (a) Responsibility is clearly defined in the Organization

- Yes
- No

Chart 5.3.3 (b) Authority is clearly defined in the Organization

- Yes
- No
- Others

128
Chart 5.3.3 (c) Accountability being clearly defined in the Organization

Chart 5.3.3 (d) Customers/ Stake holders are clearly defined in the Organization
5.1.2 Project Planning

IT, Telecom & Infrastructure:

IT software development & Telecom product development adopt various planning models like Waterfall model, Iterative Model, V-Model, Agile practices etc. At Telecom operator & related business, Project manager don’t use any standard framework as it involves huge outsourcing of business process. In Infrastructure industry Project manager don’t find any standard planning methodology as the business is itself prone to fluctuations due to various market condition. However they plan the activities to meet customer demands on time and cost based on the inputs from marketing department. Project Managers in software & product development business of IT & telecom sectors takes utmost care in collecting customer requirements and approvals as applicable, as they believe that this process will ensure high precision in product & service quality. Infrastructure project manager s use requirements provided by marketing department who in turn captures customer requirement. PM’s in IT & Telecom sector identifies WBS, Key events; Critical paths etc and strictly adhere to it to ensure timely completion of project. Incase of Infrastructure industry PM’s identifies all these planning parameters but express their reservations in meeting these requirements. All PM’s in these sectors agree that linking of schedules with project resource plan, preventive – corrective action plan, contingency plan, progress evaluation, plan is essential for successful project delivery. All PM’s strongly believe that no standard tool can serve their purpose. Alternatively based on specific business process and PM principles they develop in-house management tool for their requirement.
Government Sector

Project planning in government sector is based on departmental guidelines and stringent estimation procedures. Project Managers claim that this is a fool proof methodology. Project planning in government organizations follow all principles of project management and attributes of project management like developing WBS, network diagram, identifying critical paths. Project plans don’t have any contingency plan. If vendor/service provider fails to deliver the whole process of selecting other vendor starts from the beginning. To avoid these situations PM’s in government organizations adopt preventive-corrective action plan, progress evaluation plan.

Bangalore Metro BMRCL in Bangalore is using PRIMAVERA software tool for project management. Representation of data relevant to the above discussion is shown in the charts as per details below:

Chart 5.3.4 (a) Project Planning following International standards. Chart 5.3.4 (b) Customer requirements being considered during Project Planning. Chart 5.3.4 (c) Customers and stake holders are part of the Project approval process. Chart 5.3.4 (d) Work Break down structure WBS is used for project planning. Chart 5.3.4 (e) Network diagram is used to identify critical path and dependencies during project planning. Chart 5.3.4 (f) Usage of Tools during Project planning and execution. Chart 5.3.4 (g) Linkage between Project schedule and resource plan. Chart 5.3.4 (h) Contingency plan being considered during Project planning.
Chart 5.3.4 (a) Project Planning following International standards

- Customised/Self Developed
- PMP/Agile/CMMI

Chart 5.3.4 (b) Customer requirements being considered during Project Planning

- Yes
- No
Chart 5.3.4 (c) Customers and stakeholders are part of the Project approval process.

Chart 5.3.4 (d) Work Breakdown Structure WBS is used for project planning.
Chart 5.3.4 (e) Network diagram is used to identify critical path and dependencies during project planning

Chart 5.3.4 (f) Usage of Tools during Project planning and execution
Chart 5.3.4 (g) Linkage between Project schedule and resource plan

- Yes: 8%
- No: 92%

Chart 5.3.4 (h) Contingency plan being considered during Project planning

- Yes: 12%
- No: 88%
5.1.3 Process

IT, Telecom & Infrastructure

Project Managers in IT & telecom sector don’t use outsourcing strategy in product development business to avoid high risk in product design, but in service business it is very common as it helps reduce operating cost, overhead cost etc. The level of business outsourcing varies with project complexity. On an average service and operator companies outsourcing is to an extent of 50% to 70%.

In Infrastructure sector outsourcing of project process is highly essential to reduce manpower cost and to achieve faster completion. On an average outsourcing is to an extent of 70% to 90%. Project Managers in product development companies prefer centralized control structure to support project in contrast to service & operator industry. Here Project managers prefer decentralized control structure to support projects due to high frequency of customer and vendor interaction; however financial decisions are made centrally. Infrastructure industry also uses the same control mechanisms in the organization structure. Private companies in IT, telecom & Infrastructure use RFP for evaluation/awarding contracts to vendors / suppliers. These companies conduct vendor / supplier evaluation against cost, quality, reputation, reference. The priority for selection is quality followed by cost then reputation and finally reference. They prepare a short list of vendors / suppliers based on their past performances for awarding contracts. Project Managers in product development companies do progress review on weekly basis at team level, fortnightly at managers level and monthly at senior management level. In service or operator companies’ project managers conduct daily reviews as they believe this would be a crucial activity and the nature of business is highly volatile. In Infrastructure companies’
progress review are conducted on a weekly basis. Companies use Excel Sheet templates and E-mails for communicating MOMs & action item registers. They have made provision for internal audit and self-assessment in project plan.

Government:

In government organizations except management and procurement activity all other activities are outsourced. Outsourcing or contract awarding is through tender process, depending on size of business they use open tender or closed tender process. Contract awarding is strictly through the procedure defined in GFR (General Financial Rules) and guidelines of DGS&G (Director General of Supplies & goods) etc.

Control and support structure for project Execution is well defined & decentralized. Decision making process is also well defined. Financial & Procurement decisions are done centrally which could involve minister/cabinet approvals etc. BMRCL uses electronic format for generating MOM & action item registers during project previews. Internal Audit, departmental audits are mandatory process during project execution in government organizations. Field data is represented in the Charts as per details below

Chart 5.3.5(a) Outsourcing as a part of the Project execution strategy. Chart 5.3.5 (b) Methodology followed while awarding the contract for outsourcing. Chart 5.3.5 (c) Key attributes considered while awarding the contract. Chart 5.3.5 (d) Frequency of reviews during project execution. Chart 5.3.5 (e) MOM and AI registers being maintained as part of the Review mechanism. Chart 5.3.5 (f) Lessons learnt method is used during project execution as part of the continual improvement process.
Chart 5.3.5 (a) Outsourcing as a part of the Project execution strategy

- Yes: 58%
- No: 42%

Chart 5.3.5 (b) Methodology followed while awarding the contract for outsourcing

- RFP: 62%
- Open tender: 38%
Chart 5.3.5 (c) Key attributes considered while awarding the contract

1. **Cost**

![Cost Chart]

2. **Quality**

![Quality Chart]
3. Past Performance

![Past Performance Chart]

4. Reference

![Reference Chart]
Chart 5.3.5 (d) Frequency of reviews during project execution

Chart 5.3.5 (e) MOM and AI registers being maintained as part of the Review mechanism
Chart 5.3.5 (f) Lessons learnt method is used during project execution as part of the continual improvement process.

5.1.4 Project Communication and Risk management

*IT, Telecom & Infrastructure*

To ensure better coordination among project participants and principals, Project managers in these sectors give importance to proper and timely communication. All Project risks that hamper schedule and budget are identified and monitored separately. The techniques used for Risk Identification and probability assessment are Brainstorming, Delphi method and Lessons learned from earlier experienced. No applications or advanced mathematical tools are used in risk management.

*Government*

Communication flow within the Project organizations is poor. They believe it has improved over a period of time with the change management. BMRCL has
identified communication as key requirement and has employed 2 consultants specifically to address this need. No process or methodology is used for risk assessment related to projects. However, operational issues are identified and dealt during the periodic project review meetings in execution phase. Data relevant to the discussion above is presented in the Charts below.

Chart 5.3.6 (a) Communication plan is part of the Overall project plan. Chart 5.3.6 (b) Communication Medium favoured by Project Organizations. Chart 5.3.6 (c) Communication plan is reviewed as part of the Change management process.

Chart 5.3.6 (a) Communication plan is part of the Overall project plan
Chart 5.3.6 (b) Communication Medium favoured by Project Organizations.

Chart 5.3.6 (c) Communication plan is reviewed as part of the Change management process.
5.1.5 Project Change Management and Reasons for Delays

*IT, Telecom & Infrastructure*

Project Managers are the final authority in authorizing, approving all the change requirement of project. Change management in product development companies means scope changes whereas in service & operators companies it is the cost and time factors of project that come due to changes in requirements received from customers/clients. Since the customer requirements are locked by marketing department during project kick-off, there is no scope for any change in Infrastructure projects except time for project completion. The major reason for project delays are HR issues like motivation, sense of belonging, facility available, man power handling, time management, aligning of individual goals with organizational/team goals, maintain the team spirit etc. In Infrastructure industry project managers feel that getting manpower and getting work done from them due to attitude, discipline, skills etc are major challenge and responsible for delays. Root cause analyses and Lessons Learned are most popular method among IT & telecom project manager to analyse project delays, if any.

*Government*

The concept of change management is not prevalent in government organizations. In case of any requirement for change, approval of the change takes long procedures and has to pass through all levels of decision making, sometimes going up to the concerned minister. The major reasons for project delays are Manpower skills, lack of team work & spirit, procurement delays, political interventions, frequent change of managers/authorities. They also become the major challenges which have to be overcome by project managers for successful completion.
of projects. Project failure or severe delays which attracts the attention of public & stake holder are separately audited & investigated by concerned departments of government like CAG, CVC, Auditor general etc. Some of the tools used by the different sectors are summarized in Table 5.3.7 (a) below:

**Table 5.3.7 (a) Summary of Tools used at various sectors**

<table>
<thead>
<tr>
<th>IT</th>
<th>Telecom</th>
<th>Government</th>
<th>Infrastructure/Real-estate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Projects, Enterprise Project</td>
<td>MSP, Primavera, MS Project</td>
<td>Self-developed, MS Project</td>
<td>Microsoft project, Primavera.</td>
</tr>
<tr>
<td>Planning, MPP, IMP, ALCON, DART, Team</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>foundation service,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>service,</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data collected during the survey relevant to the discussion above is presented in Charts below.

Chart 5.3.7 (b) Change Management process is part of project plan, Chart 5.3.7 (c) Risks are identified during project planning, Chart 5.3.7 (d) Probability of Occurrence and Impact analysis being made as part of the Risk Mitigation plan.
Chart 5.3.7 (b) Change Management process is part of project plan

- Yes: 96%
- No: 4%

Chart 5.3.7 (c) Risks are identified during project planning

- Yes: 98%
- No: 2%
5.1.6 Reasons for deficiencies in Project Deliveries

HR is the major challenge faced by project companies in IT & Telecom sectors during the execution phase. Among the HR issues the key factors that impact projects are skills and training, motivation, sense of belonging, facility available, manpower handling, time management, aligning of individual goals with organizational/team goals, maintaining the team spirit. They also believe that these reasons are mainly responsible for project delays. In Infrastructure industry project managers feel that getting manpower and getting work done from them are major challenge and responsible for delays. In government projects project managers feel that manpower skills, lack of team work & spirit, procurement delays, political interventions, frequent change of managers/authorities etc are major challenges and are also the source for project delays.
Root cause analyses and Lessons learned are most popular method among IT & telecom project manager to analyse project delays and other failures. Exhibits below show the data collected from the field appropriate for the discussion above.

**Chart 5.3.8 (a) Major reasons for deficiencies in Project Delivery**

a) Manpower

b) On Time Fund availability
c) Lack of team work

![Chart showing percentages for different categories related to lack of teamwork.]

- Category 1: 29%
- Category 2: 17%
- Category 3: 35%
- Category 4: 17%
- Category 5: 2%

150


d) Time Management

![Chart showing percentages for different categories related to time management.]

- Category 1: 23%
- Category 2: 25%
- Category 3: 21%
- Category 4: 23%
- Category 5: 8%
e) Quality

![Quality Chart]

f) Lack of information

![Lack of Information Chart]
Chart 5.3.6 (b) Causes of failure during Insufficient delivery

a) Inadequate PM, Administrative, human & Technical skills

b) Poor Co-ordination with client
c) Lack of project team participation in decision making/Problem solving

![Chart showing percentages for different categories.]

- Category 1: 35%
- Category 2: 29%
- Category 3: 17%
- Category 4: 17%
- Category 5: 2%

d) Lack of team spirit and sense of mission within project team

![Chart showing percentages for different categories.]

- Category 1: 44%
- Category 2: 19%
- Category 3: 21%
- Category 4: 17%
- Category 5: 0%
e) Not having clarity on roles and responsibilities

5.2 Summarization of the Field data

Here an effort is made to present summarization of the data collected and the experiences shared by the respondent. Also an effort to draw inferences on the Project attributes has been attempted.

*Project Organization*

77% of respondents involving IT, Telecom & Infrastructure uses matrix structure for project organization and remaining 23% of respondents which are mostly government organization uses line structure. All these respondents strongly believe that these structures are appropriate for project scope, size and other local conditions. It is clear that project Organization needs to be appropriate for the nature of business and is heavily influenced by the scope, size and local conditions.

48% of respondents agree that their project organization structure encourages communication and cooperation b/w the project participants.75% of respondents are
identifying customer/stakeholders in their organization structure. Almost all respondents fully agree that Accountability, Responsibility, Job Description are clearly defined and 79% of them agree that Accountability is clearly defined and the rest 21% agrees that accountability varies with designations in project organization structure. For any successful project organization, the organizational design should encourage communication and cooperation between the project participants. We need to identify the customers and stakeholders in the organization very early and during the design phase. Project organization also needs to ensure accountability responsibility and job descriptions are clearly defined.

**Project Planning**

40% of our respondents primarily in the IT and Telecom sectors are using international standards / guidelines like PMP, PRINCE2, AGILE practices etc. 60% of respondents are using customized standards & frameworks for project planning process. Although different standards for planning process are used, all of them ensure the identification of key events, critical paths, WBS etc. 98% of respondents identify customer requirements & rest 2% of respondents obtain indirectly. 87.5% of total respondents are using standard/self developed software tool and other 12.5% of respondents are not using any tools for project planning. More than 75% of our total respondents are developing preventive-corrective action plan & contingency plan along with project plan. More than 90% of respondents are executing projects by linking resource plan with project schedule. 85% of respondents are seeking customer’s approval of project plan to proceed further. As project management process mature it is necessary for all organizations to embrace international standards for project planning purposes encompassing identification of customer requirements, key events, critical path, WBS and planning tool.
Project Execution Process

Outsourcing as a strategy is adopted by 58% of the respondents. 54% of respondents have centralized. 38% of respondents have decentralized structure and 8% of respondents using both centralized and decentralized support structure for their project executions. Among the outsourcing respondents 68% prefer RFP process to outsource and 38% have adopted open tender process to outsource project execution. It is clearly evident that while outsourcing, majority of respondents give preference to Quality of vendor, then reputation followed by cost and then finally reference. Government organizations outsource by following standard guidelines and procedures as defined by government. 87% of respondents review project progress weekly and many of them have ensured provision for self assessment/ internal audits in project plan. Project Outsourcing is an established practice adopted by all organizations primarily driven by need for cost reduction and flexibility in execution. While outsourcing it is desirable for following RFP or e-tendering practices so that transparency can be ensured. Project reviews need to be done on periodic basis depending on the volatility of variables in the project and the level of review. Hence daily, weekly, monthly, quarterly or annual reviews could be planned as appropriate to the project.

Project Communication

98% of respondents have communication plans that ensure communication between project participants through electronic medium. Such communication contains project progress reports along with other information related to operational issues. 85% of respondents are reviewing these communications for any variance so that corrections/updates could be made to take care of any change requirements. Project planning process requires clear communication plan strategy. Communication
plan includes communicating project review progress, action items, changes in project variables amongst all members of the projects and other necessary stake holders.

*Project Risk Management & change Management*

69% of respondents are assessing probability of risk occurrence. Respondents use brainstorming/group meetings to identify and prioritization of the risks. Whatever may be the method; all respondents are identifying risks and maintaining them separately which could affect the project schedule and cost. 96% of respondents believe that change management is part of project plan. 95% of respondents believe that scope is most frequently encountered change that impacts time, cost of project. However IT & Telecom respondents believe project quality should not be compromised. Project Organizations need to adopt proper risk management and change management mechanisms as part of the project planning & execution process. Risk management is a highly evolved practice in IT & Telecom companies. Risk assessment includes probability, impact estimation and generation of mitigation plans. Periodic Risk reviews and triggering timely mitigation plans ensure avoidance of project failures. Change management is a necessary practice that needs to be adopted by project managers to ensure all stake holders are aware and brace themselves up for the changes.

*Reason for Project delays*

HR is the major challenge faced by project companies in IT & Telecom sectors during the execution phase. Among the HR issues that impact projects are motivation, sense of belonging, facility available, man power handling, time management, aligning of individual goals with organizational/team goals, maintain the team spirit etc. They also feel that these reasons are also sometimes responsible for delays. In Infrastructure industry project managers feel that getting manpower and
getting work done from them are major challenge and responsible for delays. In government projects project managers feel that manpower skills, lack of team work & spirit, procurement delays, political interventions, frequent change of managers/authorities etc are major challenges and are also the source for project delays. Root cause analyses and Lessons learned are most popular method among IT & telecom project manager to analyze project delays and other failures. It has been observed and noted that most project delays or failures across all sectors happen because of HR issues. While it is motivation, sense of belonging, facility available, man power handling, time management, aligning of individual goals with organizational/team goals, maintain the team spirit for IT & Telecom sectors it is lack of manpower and getting work done from them are major challenge and responsible for delays. Hence proper HR management practices by the line managers, functional managers and top management are crucial for ensuring the success of project. Techniques for analysis of failures like RCA & lessons Learned are valuable so that future projects don't fail for the same reasons and hence need to be adopted by all project organizations.

5.3 Analysis of the Field data.

**Project Organization and the impact on performance:**

Private companies adopt broad type of span-of-control, matrix structure and are program focused / project oriented organizations. This enables them to achieve empowerment through delegation of authority and decision making, have better communication with the top management, achieve low management overhead, lower operational cost and increased profit margins. Traditionally Government organization follows hierarchical project organization structure having narrow type of span-of-
control. This structure allows close supervision and direct control, clarity on decision making, authority and powers for all levels. Typically this Project Organization structures have well separated top and bottom management layers with rigid communication channels. However with many level of management, high cost of management staff observed.

Project planning approaches:

It was observed in the survey that different approaches for Project management planning are employed by various business types. Organizations involved in IT product development, Product Implementation, Government ambitious projects like physical infrastructure, social infrastructure projects spend quite a lot of time on initial planning like studying the market, understanding the customer, their requirement in great depth, understanding the effects on the public due to the project etc. In case of companies doing projects which are routine in nature and almost similar to one another like in IT services, Telecom services, Public sector projects, they spend limited time during initial planning stage and depend on standard templates. Since the projects are more dynamic in the execution phase, they save time and quickly move on to execution. Such companies adopt excellent project monitoring and controlling techniques than project planning exercises.

PM Processes and standards adoption:

IT & telecom companies follow international standards or guidelines like CMMI, OPM3, PMI and various project planning methodologies like V-Model, Waterfall model. This is to ensure alignment with their international customer in various aspects of the business. They adopt participative management style and attribute high priority for timely flow of essential project communication among all
the stakeholders. Some of them have invested in customized tools / self-developed tools for their PM needs. Government organizations follow the departmental guidelines, rules & regulations during the life of the project. Clear cut guidelines covering all aspects of the project during its life are available. Their management style is supervisory & control oriented. Government projects are largely outsourced to contractors, their role would be to supervise contractor's work, review the progress, arbitrate on issues, levy penalties on defaulters and drive PM Deliverables to completion. There is no scope for any arbitrary decisions by PM team as they are subjected to review and audit by other Governmental agencies like CVC, CAG, CBI etc. These strict processes are followed as they involve public money and Government is answerable to Parliament. Usage of tools for project management is limited in Government organizations as the PM team does supervisory and controlling role. In this role they depend on periodic reviews covering project status and action taken reports.

**Project Documentation, Tools and Change Management:**

At IT and Telecom companies a project charter which is a document consisting of all plans like communication, risk management, change management is released at the outset. Many of them have integrated this plan into their project management software tool which ensures the capturing of relevant project information and also to remind project management team about the exchanging of communication from time-to-time. Infrastructure companies however don't seem to use any automated software tool for project communication but they give much importance to project communication through review mechanisms by have meetings at various levels regularly and the communiqués are being sent by emails. Government organizations solicit information on projects at regular intervals from all of its project
participants which in turn they report to concerned ministry in their own predefined mechanisms. They do not use any software tools but most commonly used spread sheets and file noting / internet mailings for communiqués. Most commonly encountered change requirement by project managers in all these sectors is SCOPE of the project. Project managers do realize that the change in scope will affect cost & time of project, so PMs in IT & Telecom sectors chart out the clearly defined process in initial plan to adopt changes and involve all stake holders to decide on change request. In infrastructure sector change management is not prevalent because, projects involve huge outlays & the requirements are frozen in the initial stage itself to prevent adverse repercussions. Government companies do not have any provision for project change management, as the scope and span of the projects are well defined in the tender documents and any change could have legal and financial implications for all stake holders viz public, vendor, Government. The tender documents themselves are prepared after detailed feasibility study and numerous review meetings at various levels.

**Reason for failure in project deliverables:**

It is observed that one of the underlying constraints in project delays in India is the pressure to quickly begin working on the project deliverables. This action is often accompanied by securing quick management approval for interim budget and skeletal human resources. The issue with this approach is that the resultant project scope does not fit the allocation level. In turn, this causes a combination of the triple constraint set (time, budget, and scope). Project stakeholders have different interests in the outcome of the project. Some are concerned about budget; some schedule; and many others concerned about outcomes. Successful Project completion is a combination of the view and expectations of all the stake holders. The
largest and common cause across sectors for project delays are HR issues like non
availability of trained manpower, motivation deficit amongst employees and lack of
ownership amongst project teams. The other major causes of concern are inabilities
to manage project complexity, estimation and monitoring, communication,
assessment of risks and collaboration.

Best Practices in Project Management:

Adopting best practices focusing on the three major areas of project
management like cost management (Cost Performance & ROI), Delivery management
(Schedule performance, Project Cycle Time) and Staffing (recruitment, training and
motivation) could ensure successful project implementation.