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IT - Project and Program Management-Best Practices

(An overview of Project life cycle phases & PM process groups)

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Most of the IT projects comprise of the development of various software projects, Hardware Projects, Networking & communication Projects and all these related projects together form an IT program. And the IT Program/project manager think about the initiation of programs/projects, planning programs/projects, directing and executing programs/projects, monitoring and controlling programs/projects and closing programs/projects which interacts with scope management, time management, communication management, risk management, cost management, quality management, Resource management, Procurement management and finally the success of any project or program lies in aligning it with the over all business success of the organization.

This article aims to distinguish between the project/program life cycle phases and the project/program management process groups (PMBOK) with reference to the IT project/program management and also it describes the best practices can be adopted in an IT project/program management, In the page number 31 of PMBOK Third edition clearly specifies that “The project life cycle defies the phases that connect the beginning of a project to its end” it also specifies that the “Phases of the project life cycles are not the same as the project management process groups”. It again clarifies that “There is no single best way to define an ideal project life cycle”.

I have received several questions regarding this from the new comers to Project management community & PMP study groups regarding the difference between project life cycle phases and project management process groups, and how these processes as mentioned in PMBOK can be applied to our real projects ?. Is it practicable to follow the procedures as mentioned in PMBOK in real projects?. Therefore this article attempts to answer these questions especially from new project mangers and trying to give them an idea of relations between project life cycle phases and project management process groups with respect to the IT industry based on my experiences. IT and Software Projects/Programs are now the most common type of Projects /Programs undertaken in the field of Project/Program Management. The 5 phases of IT projects/Programs life cycles are 1) Analysis, 2) Design, 3) Develop, 4) Test and 5) Implement.

Analysis Phase

In the Analysis Phase, we are performing the analysis of project/program including feasibility studies and we develop project/program management plan and project/program infrastructure by analyzing business environment, processes, systems, people and Organizational Structure to set out project/program goals and objectives, develop Project/Program Requirements, and documenting project charter, Project/Program Financial Planning and plan the program governance, which involves the combination of initiation process group and some part of the planning process group.

Design Phase

In the Design Phase we will design all of the components by designing the Project/Program Architecture including WBS related to Hardware, Software, user interface, security, networking and integration with other systems. Including the schedule development of the project/program, plan communications, plan project/program risk and quality management, plan project/program procurement management are the part of the planning process group. A proto typing the components of projects are the best solution to make the customer feel the actual system (suitable for small IT Projects/Programs)

Development phase

And the most time consuming phase is always the development phase of the system. This involves the writing software codes, constructing hardware and networking solutions, building the database, writing the user interfaces and fitting together each of the components into a complete solutions. This is the execution process group in which we have to Direct and Manage Project/Program Execution, Manage Project/Program resources, Manage Project/Program architecture, Manage Component Interfaces, Distribute Information among stake holders, Conduct the necessary procurement, and approval of components etc are done in this phase especially in the IT Project/Program Management Scenario. There may be chances of suggesting unrealistic scope from the side of stake holders especially at this phase and in the testing phase also. Hence from this phase onwards appropriate measures should be initiated to encourage progressive elaboration and to discourage scope creep. I am emphasizing this point because especially in IT Projects the customer often change their requirements half way though the project, putting pressure on our budget and delivery dates therefore we should set the scope in concrete. That is defining the scope in depth and define, group and list the activities in the plan under relevant deliverables to keep an eye on the completion of each deliverables. But still the changes are inevitable, to manage those changes we need to document the changes and then review the impact of those changes on the deliverables and get the customer to sign off the changes and let them understand the requirements like money, people and time to carry out those changes. And finally be

transparent and adopt a reporting strategy to avoid surprise. If we follow the best practices and if the project passes the deadline we can show that it is the change request that caused it. In this way we can manage the scope creep.

Testing Phase

And in the testing Phase the solutions developed in the development phase are tested towards the expected performance for getting the customer approval of the project/program. In IT there are various types of testing including system testing, load testing, performance testing, security testing and user interface testing which is the combination of Executing process group and monitoring and controlling process group, where we have to monitor and control project/program performance with corrective actions as and when needed, Manage project/program issues, Monitor and control project/program scope to avoid scope creep, monitor and control project/program schedule and corrective action if necessary, reporting project/ program performance, monitor and control project/program risk. To ensure on time delivery we should introduce effective time management processes (PMBOK). And to deliver project within the budget we should ensure effective cost management processes (PMBOK). It is also important to see that these deliverables are meeting the customer expectations. To meet these quality targets, we need to put in place quality management processes (PMBOK), which are checks to ensure that the deliverable is going to "do what it's supposed to do". Only then, we can assure that the project is going to be signed off by the customer. Similarly it is always good to follow the best practices as described in the PMBOK.

Here we can also experience that the some of the output from the executing process group will function as the input to the monitoring process group and vice versa also. As I had mentioned earlier scope creep is very common in IT projects; therefore we should have clear understanding and distinguish progressive elaboration and scope creep. Progressive elaboration is the process to add more features to the product, which must be helpful to increase the quality and reduce the risk, where as the scope creep may increase quality but it can considerably increase risk on triple constraints, therefore scope creep should not be allowed for the success of the project/program.

Implementation phase

And the last phase is the implementation phase we do this by installing the hardware including network components at the customer's site, installing the software, and migrating the data over from the existing system to the new system. Some final "checks and balances" are performed to ensure that the data is accurate and the whole system is performing as expected and getting the customer approval, lessons learned are documented and follow all the procedures of closing the project.

This involved execution process group, monitor and control process group such as administer project/program procurement, monitor and control project/program financials, manage project/program stakeholder expectations, provide Governance oversight on project/program benefits and controlling project/program changes and closing process group such as close project/program, close program procurement and approve project/program component transition. This is how the different phases in the IT Project/Program Management are interrelated to the project/program management process groups as mentioned in the PMBOK,

And hence the conclusion is that

1. Project life cycle defies the phases that connect the beginning of a project to its end.
2. Phases of the project life cycles are not the same as the project management process groups.

Now one can refer PMBOK and can find out how IT Program/project management process groups initiation of programs/projects, planning programs/projects, directing and executing programs/projects, monitoring and controlling programs/projects and closing programs/projects is interacting with the knowledge areas scope management, time management, communication management, risk management, cost management, quality management, Resource management, Procurement management and most important thing is that based on the knowledge gained from the PMBOK one should be able to align it with the over all business success of the organization to have a meaning full end of his project/program.

Therefore the PMBOK is applicable to all type of projects/programs, and it is the recognized standard for the project/program management profession for handling small and large projects/programs.

References:

- Standard for program management second edition & PMBOK Guide (PMI)
- Personal IT-PMO experiences



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