Project Management – A Business Fulfillment Process

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ABSTRACT

Business aspects of projects are sometimes ignored by the project managers. Projects executed in an organization should contribute to its business success and should help the organizations to grow and sustain.

This paper emphasizes the importance of business focus and attempts to explain some project management concepts which may help the project team in contribution towards business fulfillment. This paper also gives some practices followed in Pumex Infotech Pvt.Ltd towards this direction.

General Terminologies

Project Management, business fulfillment gates milestones etc...

Keywords

Business scenarios, execution teams, marketing team, development cost, payback, schedule, performance, demand etc...

1. INTRODUCTION

Business success is the end goal of projects and the success of the projects depends on its direct or indirect contributions to the business. So it is important to take care of the factors affecting business success which may be outside the defined scope of the projects.

The requirements and market scenarios will keep on changing .So a project which is of importance today will not be of the same priority after some time. So it is very important to assess and make sure of the business scenarios that are still valid in addition to tracking the project progress. This will come as an indirect additional responsibility of the project manager.

Most of the project managers and project team do a good job in execution but will not pay enough attention to the business risks. This will result in making the projects unsuccessful even though it meets all the performance criteria of schedule, scope, cost, quality etc.

Many execution teams (Including project Managers) are not aware of the big picture of the projects and how the project deliverables can contribute to the success of the business. Knowing this big picture will give emotional attachment to the project team and will help them in prioritizing the critical success factors of the project.

Portfolio management and right prioritization of the project is a weak area in many organizations. A strong coordination between the marketing team, management and the execution team is required for achieving this efficiently.

Some of the business decisions may be beyond the authority and boundary of the project managers. But eventually the project success depends on its direct or indirect contribution to the business. So project managers and project team should be aware of the environment which can affect the ultimate success of the project .This will help them in deciding the right strategy and right contribution during project execution.

Most of the projects fail when they fail to achieve business goals. Some example parameters for successful projects are:

- **Development cost < Payback**
- **Schedule < Market demand period**
- **Performance > Competitors / Demand**

These parameters are linked with business objectives of the organization and customers. Projects are considered to be a failure when they fail to meet these objectives.

So it is very important for the project manager and project team to be aware of these factors and take appropriate steps to support this. These factors may not be in the scope of the project definition .But this will come as an unwritten responsibility of the project manager and project team.

This paper tries to explain different project parameters which can contribute towards business success.

2. FACTORS AFFECTING PROJECT SUCCESS

Ultimate success of the project depends on the business success and the value it adds to the business. The following sections try to explain some of the aspects, which affect the success of the projects.

2.1 Selection of Development Life Cycle

There are number of different development lifecycles. Each of them has its own strengths and weakness. So we need to carefully select a lifecycle which is suitable for business fulfillment. I would explain more taking an example of software projects but this is true for any project in its context.

In general software projects will have changing requirementsand we need to be very careful in selecting the appropriate lifecycle. Customers may not be ready to wait till perfection and completion of all the required features .Being a software output it is easy to update the existing product without much of additional cost.
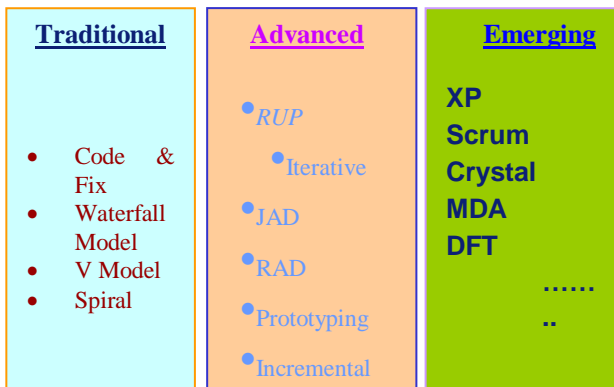
Traditional	**Advanced**	**Emerging**
• Code & Fix • Waterfall Model • V Model • Spiral	•*RUP* 　•Iterative •JAD •RAD •Prototyping •Incremental	**XP** **Scrum** **Crystal** **MDA** **DFT** 　…… 　..

Figure 1: SDLC Model Examples

For example waterfall model looks simple common sense as a project lifecycle and this is the basis for many other Software Development Lifecycle (SDLC) models. Traditionally project managers follow waterfall model and keep that in mind while planning and executing the projects. Most of the project managers like this model because it is easy to measure progress and transition between different phases, gives clear progress highlights. This is a well known and suitable model for many of the non-software projects where things can be done only one after the other.

Waterfall may be a right solution in some cases but may not be right in some other situation. The decision factor shall be the time to market which can decide the critical success factor for the project. The output of the projects will not be used if we miss the market window.

This doesn't mean that waterfall model is not good for all the projects. There are lot of projects which were successfully done with waterfall model. Code and fix model will be good enough in some cases. But we should be careful in selecting the model as many project managers tempt to follow waterfall model. The decision should be based on the business requirements and this will vary from project to project.

In many of the software projects customers are not very clear on the requirements and they will get more idea when they see and feel the initial releases. So the initial feedbacks from the customers are very good mechanism to refine the requirements and deliver to their expectations. A different lifecycle than waterfall may be suitable in this case.

Change is inevitable especially in Software projects. This change can be with respect to requirements, resources, budget, Technology etc. Customers need more features with less time and budget. Project Managers need to follow the right process to achieve this in addition to adopting newer technologies and tools.

So it is important to study and analyze the impacts before selecting an appropriate lifecycle. This should make sure that the market window is not missed and the end business goal of the project is met.

2.2 Getting a big picture
It is important for the project team to know about the entire product life cycle, its impact on the end users.

The project team including the project manager is very much focused on the project execution. Many of the project teams are part of software execution team. This makes the project team concentrate on the execution part and need not have to know the big picture .But knowing the big picture will have the following benefits

- The project team shall move to higher levels to drive the product roadmap in long term
- The project team can get more emotional attachment to the project by knowing the entire product life cycle and end usage
- The project team can give more importance to the end user requirements by knowing this big picture
- Project team will know the critical factors of the project and accordingly act on the same.
- Help in taking right decisions with respect to the customer needs

2.2.1 Knowing the complete food chain

Project teams should have a high level knowledge of the entire product lifecycle and know exactly where their contribution goes. This will give pride to the project team and gives more commitment.

Most of the project teams are very much concentrated on their requirement and their deliverables. They assume that projects are successful if they deliver their requirements. But this may not be true in many cases especially if the project is involved in only some part of the entire product lifecycle .There are lot of instances where the project is not successful because the projects/factors up or down the chain are not successful. We can justify saying it is beyond our control or out of scope. For example our projects are not successful if we couldn't get our input deliverables on time or with the required quality. We can blame the input but still it will not help us to achieve the end goal of project success.

So from the above figure we need to see how my project can contribute to the end result of success. End result is getting business ($$$$) and my project cannot be a success if that is not achieved. So we should be aware of all the influencing factors which can affect that goal.

2.3 Identify Critical success factors
It is important for all the project team to identify the most critical factor for the project success. This definition need to be aligned with the business case and end use of the project deliverables. Some of the concepts explained below helps in a proper identification of critical success factors.

2.3.1 Project triple constraint
Project triple constraint involves making tradeoff decision between different project performance parameters like Cost, Time and Performance.

Projects will always have uncertainties with respect to resources, scope, budget etc. But the importance of these factors may vary from project to project. So flexibility in terms of these factors need be defined and agreed with the stake holders. Making all the factors rigid will lead to uncertainties and the project team will not be able to deliver what is important for the end user.
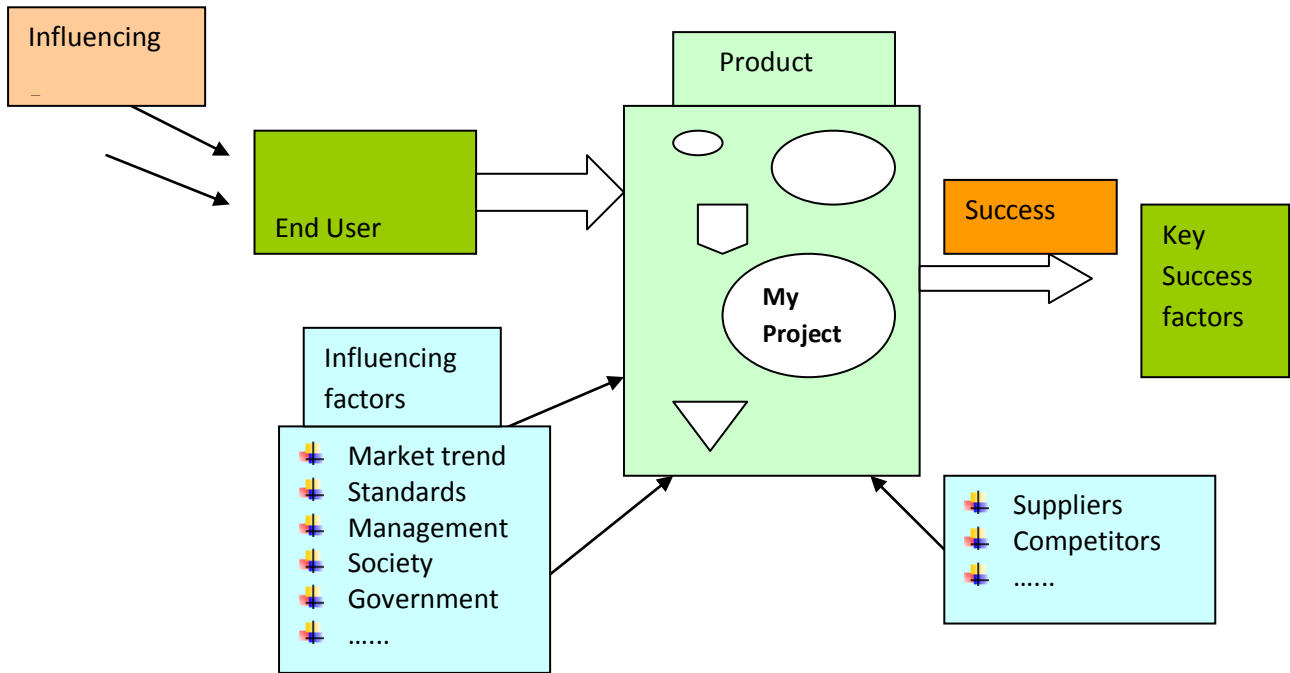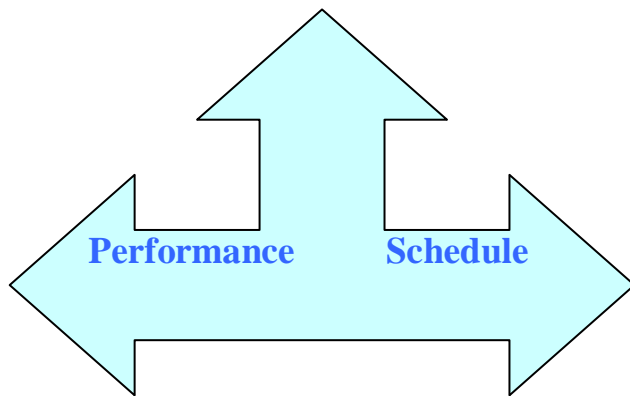
Figure 2: A typical product Environment

Figure 3 : Triple constraint

These factors are important for the project success and customers will always asks for equal importance to all these But it is an ideal situation to give equal importance to all the factors. We will be blind to reality if we think all factors are uniformly significant.

For example the priority between a telecom project and a flight traffic project will be completely different. In a telecom project we can make quality/scope is flexible but schedule is critical because of the competition. In an aviation project quality and reliability is critical than schedule.

It is important for the project team to prioritize and agree with other relevant stake holders on the fixed parameters and flexible parameters of the project.

3. CRITICAL STAKE HOLDERS

Critical stakeholders are the people who can have the most influence on the project. This means the project cannot proceed without the approval or consent of these people. Most of the time these stake holders will be part of senior management or customers who will be aligning with the business goals of the project. Project team must identify the critical stakeholders and give priority to their requests and suggestions.

3.1 Identification of Business risk and bottlenecks

All the projects will have product risks and business risks. But most of the project teams will focus more on project /product risks and not on business risks. A project manager may not be responsible or accountable for business risks. But it is important for him to be aware of this, which can have an influence on the project success.

Business risks can be with respect to Security, Revenues, Legal, and Cost etc. Some examples are:

- Potential for human injury or loss of life
- Environmental damages
- Opportunity loss (may be due to time to market)
- Failure for legal compliance
- Loss of goodwill or brand image
- Fluctuation in currency value (Eg: $$ vs. INR)

Bottle necks are factors which affects the progress of the projects mostly due to some dependencies. These tasks may not take significant effort to implement but will be critical for the progress.
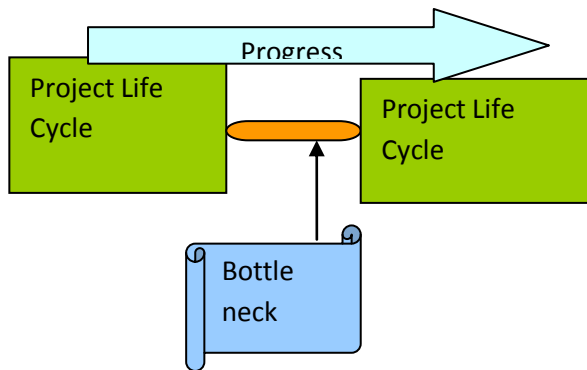

Figure 4 : Bottle Necks

Most of the project risks occur because of some bottlenecks. These bottlenecks need to be identified at the earliest possible and make precaution to address this. For example if we are expecting hardware from a vendor during the project phase without which we cannot proceed with testing our software. You are as planned and finish the implementation of your software .Now the hardware non-availability becomes a bottleneck and we will not be able to proceed.

Occurrence of business risks and bottlenecks will result in the following

- Uncertainty about the future plan
- Unhealthy team dynamics
- Panic situation in the team
- End goal is not achieved etc

So identification of the bottlenecks and resolution of the same at the earliest possible is the key. This is one of the responsibilities of the project manager.

4. PORTFOLIO MANAGEMENT

The portfolio management process translates the business goals of the organization into a roadmap and set of projects which are required to realize the roadmap. These projects need to be prioritized based on a defined criteria and the execution need to be planned based on the ranking. These criteria may be different for different organizations.

Portfolio management is a weak area in many organizations. Organizations should know their capabilities well and decide on which projects need to be done by which team.

4.1Are we doing too many things? (Prioritization)

In general, organizations have a tendency to accept more than their capabilities. They want to capture and enter all the possible markets and projects. But this will lead to problems at a later stage. So it is important for the management to know the capabilities of the organization and prioritize the projects. This prioritization has to be done with market potential in mind, which will help them to strategize the plans for future.

It is important to know the market potential and competitions well to strategize the roadmap of the products. Project execution team may not be directly involved in this .But they can give timely feedback to the management which will help them in taking the right direction.

5. OPERATING PROCEDURES

This section explains how business fulfillment is achieved by standard operating procedures followed in Pumex .

5.1 Phases

Projects are divided into phases to assure the smooth execution and tracking .The projects are typically divided into the following phases

Sl no	Phases	Key Activities	Deliverables /Output
1	Pre -Sales	Solution definition, technology , Requirements analysis, Budgeting	**Finalized requirements doc, Signed contract, NDA, High level schedule**
2	Planning	Resource allocation, Project plan, Test strategy, Tools & Techniques, Risk analysis	**PMP, Risk plan, SDLC finalization.**
3	Execution	Implementation , Unit Testing, Documentation	**Code, Installation files**
4	Quality Assurance	Do quality assurance as per Quality procedure	**Bug report , Updated test report, Updated code and install files**
5	Beta Testing	Beta testing, Customer acceptance testing	**Bug reports from beta phase**
6	Closure	Administrative closure ,Final deployment ,Source code handover	**Final Source code , Install files ,Customer feedback**

5.2 Gates

Gates are introduced in the projects to assure periodic review of the projects and make sure that all stake holders in common understand. The gate review process will be done by the Project Control Board (PCB) typically consisting of representatives from Customer, Sponsor, Sales and Development Team. The definition of the Project control board and responsibilities will be defined in the Project Management Plan (PMP).

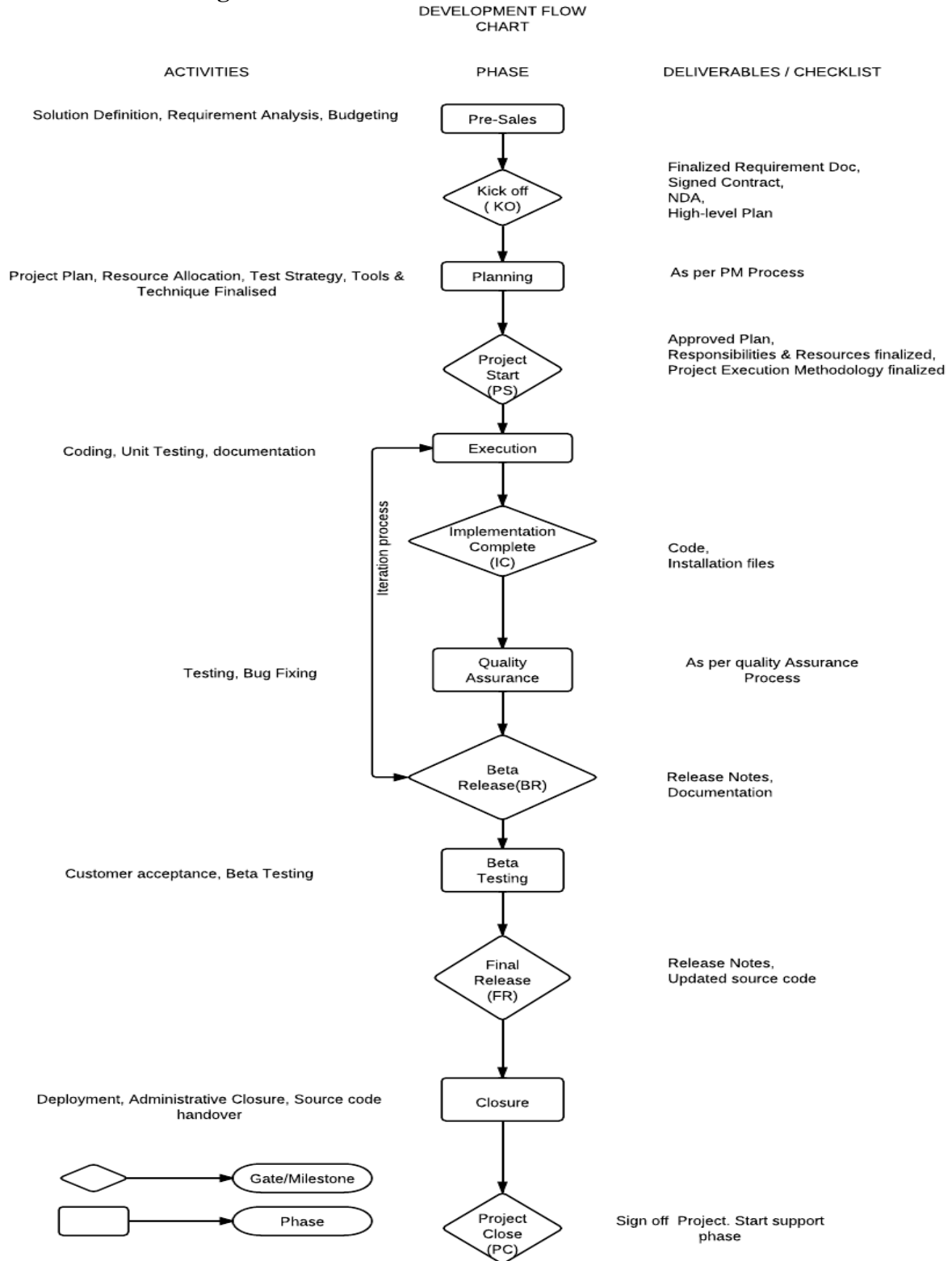| Sl no	Gates	Purpose	Checklists
1	Kick Off (KO)	Assure that all stake holders have common understanding on the scope, timelines and objective of the project	**-Requirement doc (FRS)** **- Contract** **- High-level Schedules**
2	Project Start (PS)	Assure that the detailed plan and resource allocation as per Project management process	**-PMP** **-Role and responsibility matrix**
3	Implementation complete	Assure features are implemented	**-Reviewed Source code**
	(IC)	as per FRS	**- QC Release** **- Test Cases**
4	Beta Release (BR)	Assure the project is ready for beta release	**-Bug status report** **- Test report** **- QA Clearance**
5	Final Release (FR)	Assure project is ready for final deployment	**-Customer acceptance Test report** **- Latest bug status**
6	Project Close (PC)	Administrative closure and move the project to support phase	**-Source code acceptance** **- Clearance from Finance department**

Depending on the complexity and Size of the projects some gates may be skipped or simplified. The exact decision on this will be defined in the Project management Plan.

The PCB should take a go or no-go decision in the gate meeting .The gates can be reviewed or conditionally approved before proceeding to the next level. This will make sure that the business goal of the project is intact at every stage of the project and can assure business fulfillment.

5.3 Process Overview Diagram

DEVELOPMENT FLOW CHART

ACTIVITIES	PHASE	DELIVERABLES / CHECKLIST
Solution Definition, Requirement Analysis, Budgeting	Pre-Sales	
	Kick off (KO)	Finalized Requirement Doc, Signed Contract, NDA, High-level Plan
Project Plan, Resource Allocation, Test Strategy, Tools & Technique Finalised	Planning	As per PM Process
	Project Start (PS)	Approved Plan, Responsibilities & Resources finalized, Project Execution Methodology finalized
Coding, Unit Testing, documentation	Execution	
	Implementation Complete (IC)	Code, Installation files
Testing, Bug Fixing	Quality Assurance	As per quality Assurance Process
	Beta Release(BR)	Release Notes, Documentation
Customer acceptance, Beta Testing	Beta Testing	
	Final Release (FR)	Release Notes, Updated source code
Deployment, Administrative Closure, Source code handover	Closure	
	Project Close (PC)	Sign off Project. Start support phase

Iteration process

Gate/Milestone

Phase

5.4 Responsibility

The Management and Project control board are responsible to comply with this process. Any deviations from the standard procedure has to be revisited and accordingly the changes to be made for the same.

5.5 Application

The standard operating procedure gives clarity on the process to be followed and to derive common understanding with all the stake holders involved. This will also help to improve Quality, Schedules and assure business objectives of the organization and the customers are fulfilled. This method has been tried out successfully in Pumex Infotech Pvt. Ltd and was proven to be successful with a greater customer satisfaction.

5.6 Traditional Model Vs SOP

Influencing Factors	Traditional	SOP
Project business objectives	Team is unaware	Team is given a big picture
Quality Standards	Not followed regularly	A must in SOP
Portfolio Management	No clear picture on the process. Get into too many things	Prioritization is done and strategic decision by management
Review of business case	Usually done only in the beginning and end	Periodically reviewed in each gate
Key success factors	Team is aware on what they do	Execution model based on key success factors

Project triple constraints	Trying to achieve all ,but fails	Trade off based on key success factor
Changes in business case /Technology	Not reviewed	Review validity of business case at every Gate

6. CONCLUSION

Business success is the key for project success .The project team including the project manager should be aware of this fact and define the performance targets based on this goal. The business aspects may not be in the boundary of scope or responsibility of the project team .But the business aspect will be an environment which affects the ultimate success of the project. Re-validating the business case at every stage of the project execution and refinement of the same in view of the key success factor is the key in this process.

7. REFERENCES

[1] Bob Hughes, Mike Cotterdl. Fourth Edition Software Project Management.

[2] Roger S.Pressman, International Edition .Software Engineering, A Practitioner's Approach.

[3] Walker Royce,2010 Software Project Management, A Unified Framework.

[4] K.Chandrashekar Shet, 2005, Software Engineering And Quality Assurance.

[5] Stephen Schach, Seventh Edition,Software Engineering.

[6] Waman S Jawadekar , Computer Engineering Series, Software Engineering, Principles and Practice

[7] Richard Fairley,Software Engineering concepts

[8] Project Management Body Of Knowledge (PMBOK) Fourth Edition