

## Benefits of Integrated Team Management of Projects: A Live Example

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**Abstract:** The paper highlights the deficiency of usual practice of capturing customer's requirements by one team of service providers and project execution by another team in off-shore model of software projects. Also, the paper highlights the difficulties of such approach when the client side involves multiple agencies whose diverse business needs are to be met. Finally the paper highlights the new approach of associating the same integrated team of all stake holders from beginning of gathering business requirements to deployment across the organization as a single integrated team.

### 1. Introduction:

The normal project off-shoring model involves a pre-sales team comprising of Marketing & Sales personnel and technical project manager to capture the business requirements of the client. Often the sales team may not know the exact technical requirements while the project manager associated with the capturing of business requirements may not handle the development of the project. Moreover, it is real challenge to tackle many complications that arise when (a) the client team and service provider team are at different geographical locations (b) the client team comprises of different departments whose diverse requirements are to be integrated to formulate the final business requirements without any

conflict of interests and contradictory requirements of different divisions.

"X-Works\*" is one such highly complex projects that is executed almost flawlessly from the start of business requirements capturing phase to deployment phase that included many levels of acceptance testing owing to an integrated team associated with the project throughout the life cycle.

The project has gained many benefits to the project sponsor, service provider, IT team, business team as well as the field team . The ultimate users of the project are field team spread across the county and the business teams located at head quarters of the sponsor, while the biggest beneficiaries are the customers (end users) those who utilize these services

This paper tries to give some insights into the project execution model and the benefits that are accrued due to the adopted project management model.

### 2. The "X-Works" Project :

(Name of project and other client related information are re-named to maintain the confidentiality of the project sponsor).

The client is one of the biggest petroleum refining and distribution giant who has the ambitious plan of starting thousands of retail outlets across the country to directly sell his

products to end users. Apart from the main business of selling vehicle fuels in the cities, truck stores are planned across the country by the sides of nation's highways. Apart from selling the fuels, these truck stores handle multiple businesses, like restaurants, departmental stores, vehicle tracking systems, truck servicing and spares and driver amenities like bathrooms, rest rooms, entertainment, food and overnight resting for truck drivers. The aim of the "X-Works" project is to provide truck servicing like minor repairs (such as filter and oil changes, tyre and tube changes, punctures etc) and sell essential spares like lubricants, oil filters, tyres, tubes and spares that count to around 200 with unique features like spares reservations, request and service forwarding, truck history (and reporting to end users) and customer advisory services (like tyre rotations and wheel alignments). The overall expected business turn-over is around \$50 millions when all the planned truck stores become operational.

### 3. The Business Requirements:

The main business requirements to be handled are:

- (1) Usual POS (Point of Sales) functions like spares and services (that include inventory management, accounting and taxation, staff scheduling, supplier management, cash handling (including different modes of payment like cash, cheques, cards & coupons) and integration with payment gateways, sales promotions, price management, obsolescence management like discount sales and stock forwarding to other stores based on demand and communicating obsolescence status to other stores and waste management etc)
- (2) Franchise handling
- (3) Integration with Organizational ERP and intra and inter stores communications
- (4) Customer and vehicle database management, advisory services (reports and communicating advises on tyre rotation, tyre conditions, oil changes and business volumes etc)
- (5) Reservations and Request forwarding: When a particular product required by end user is not available, the POS can search its availability at other stores enroute of the truck and reserve that product(s) and communicate to the other stores along with pay-collect status (along with accompanying accounting and taxation challenges).
- (6) Service appointments and customer satisfaction Rating
- (7) System Administration and Security
- (8) Reports needed by different interest groups like business, ERP, Field team, customers and IT
- (9) Staff training and update (of procedures and policies) management (A challenge as the POS sales personnel are very low IT skilled and relatively less educated and are not computer savvies)

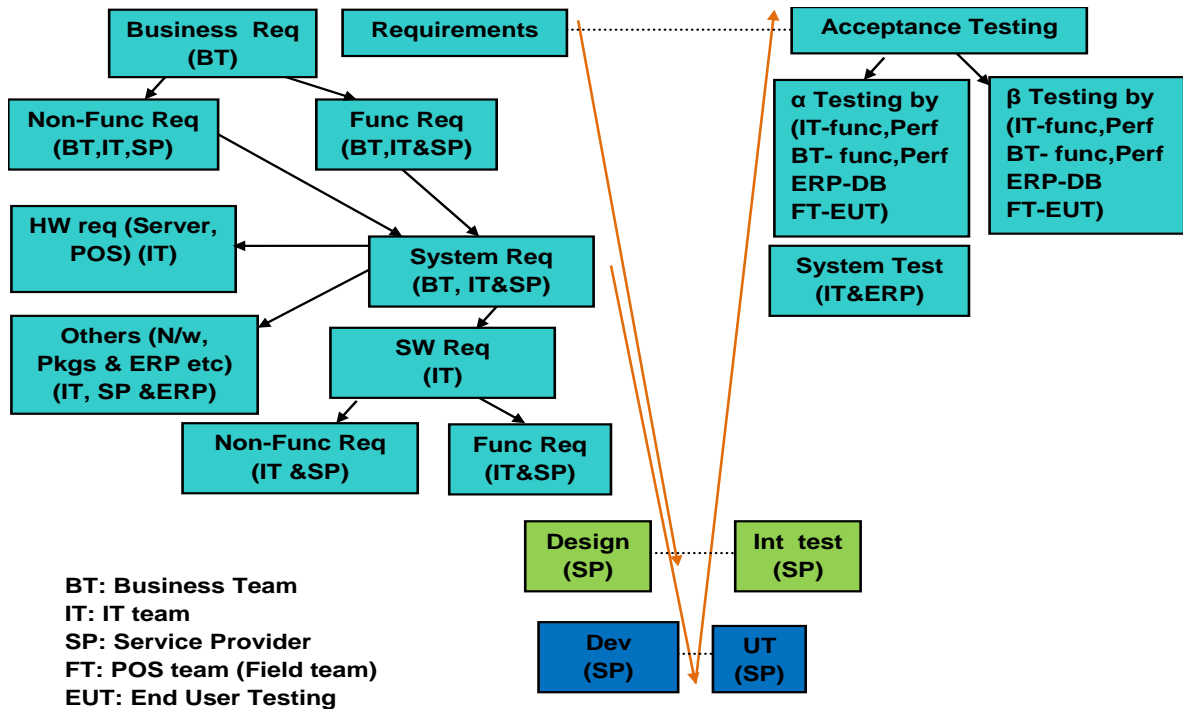


Fig-1: The extended V Model of waterfall life cycle

**4. The Project Lifecycle:**

The project has followed an extended V model waterfall life cycle (Fig-1) where the requirements and acceptance testing phases have more than one level, while the design and development followed a spiral model as and when changes are taking place in the requirements. After identifying the basic business requirements from the four different business lines and translating them into initial functional requirements, the design has started. While requirements underwent changes, the design also was changing (mostly minor changes)

- (1) One Representative from each of the four business lines of lubricants, TT (tyres & tubes), spares and services (who are having fair business and POS knowledge and empowered to take decisions and authorize the IT team)
- (2) The IT team comprising of pre-sales manager, technical (project) Manager and QA manager
- (3) Organizational ERP team representative
- (4) Service provider team (Represented by the project manager who is situated in client location, away from his head quarters)

**5. The Project Team:**

The integrated team that worked together comprises of:

The project organization is shown in fig-2 The highlight of the project management team is that all these personnel are associated with the project throughout the lifecycle until the application is field tested, deployed and made operational across the

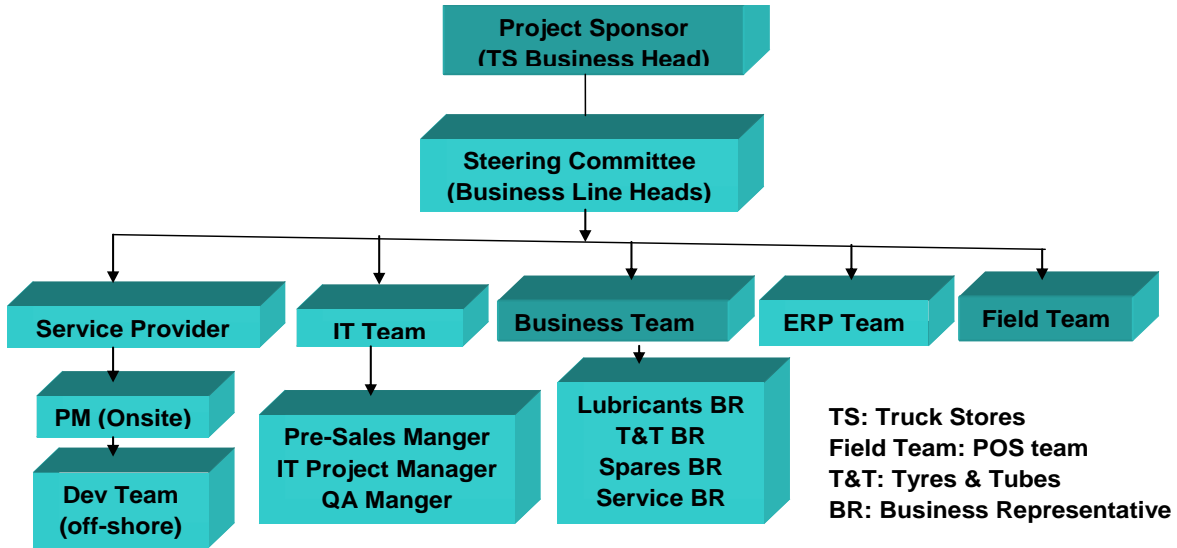


Fig-2: Project Organization

country, This condition (along with decision making and empowerment of the business representatives) has been made mandatory by the QA manager of IT team as a pre-condition to accept to take up the IT requirement of the business.

The company has a central IT team whose responsibility is to meet the IT needs of different businesses. Each business team gives its requirements and IT team identifies the vendors after proper evaluation subjected to different kinds of criteria like technical fit, financial fit and functional fit etc.

The actual design and development and associated unit and integration testing were done offshore at service provider’s offices.

The ERP is central to the entire organization catering to different businesses of the client. Hence, any data that is to be loaded into ERP is first placed in staging tables and after proper verification and authorization from the identified ERP representative for

each business, the data is pushed to actual database of the ERP.

**6. The Experience and Metrics:**

This project was originally started in the usual offshore model where the IT team has identified a service provider (SP) who was at a different location. Because of the often conflicting and contradictory requirements among different business lines involved and the SPs interactions being on and off, even after 6 months, the basic business requirements could not be captured and analyzed and it was much way behind the schedule. The IT team has terminated the contract with this service provider and identified another SP. This time IT team has insisted on the conditions stated in section 5. This enabled very smooth execution of the project un-interrupted and it took nearly 7 months to completely formulate the business requirements, functional requirements, and multi-level acceptance testing requirements (as shown in lifecycle).

The design and development are done at SPs location and those metrics are not discussed here as the interest is in the benefits of integrated teaming and how it is beneficial to the project sponsor. The acceptance level metrics are captured by the IT team at different levels.

#### 6.1 Metrics:

- (a) Total duration for capturing the detailed business requirements and converting into system requirements and getting approval from all the concerned parties from sponsor to SP, to business teams to POS users: 6 months
- (b) Total number of meetings between IT team, business team and SP: 14
- (c) Total number of on & off-location site visits to test the end product: 10
- (d) Acceptance phase defects: Critical:0, Major: 2, Minor:98, Cosmetic: Ignored
- (e) Number of iterations for development and re-fixes: 1
- (f) Operational Glitches after deployment: No major glitches
- (g) Time offshoot once the requirements are finalized (during application delivery phase i.e., design and development phases): 2%
- (h) Rework Effort over run to fix the minor defects: Less than 3% of design and development efforts.

After all testing, the deployment and operation of the application was smooth and it was in one-go.

#### 7. Conclusions:

- (1) It is highly beneficial to identify the business representatives, IT team, ERP manger and SP project team manager right at the time of capturing business requirements
- (2) The empowerment of business representatives to take decisions and authorize the IT team has cut down the bureaucratic delays and accountability is ensured for functionality, accuracy and timeliness
- (3) The association of same project manager of SP, Project Manager and QA manger of IT team has ensured that the lifecycle is not entering into iterations and that the acceptance level defects are minimal.
- (4) Involving the POS level users at appropriate time has highly reduced the changes in the forms, reports and end user comfort of using the application without much resistance. Also, it has given the insight into level of understanding and efficiency of the POS users who are highly IT under-skilled that has helped the IT team for proper formulations of page layouts, screen designs to capture the inputs and report design.