

IMPACT OF PROJECT MANAGEMENT TRAINING AND METHODOLOGY ON EMPLOYEES WORKING IN IT INDUSTRY

Nawaz Ali Hamdulay

B.E - IT, MBA - IT, PhD Scholar - JJTU

Dr.Arjita Jain,

Professor,
NCRD's Sterling Institute of
Management Studies, NaviMumbai

ABSTRACT

Employee is the most important asset of any organization in any industry. The highs and lows of the organization depend on its employee's performance. Therefore the senior management had realized the importance of investing time in training and development for improving employee's project management skills. This research paper presents the framework and models related to employee project management training programs and impact of the training on the employee performance. This research study also discusses the current working style to handle the ongoing projects in the organization after the project management training was performed. This research paper also presents the different types of project management methodologies prevailing in the IT industry. The benefits and drawbacks of the project management methodologies have also been discussed.

Keywords: Training, Project management, Methodologies, Employee, Employee performance, IT.

INTRODUCTION

Best performing organizations in the industry have realized the importance of the people working in their organizations/companies and they have also realized to provide the right amount of skills to keep their people enabled. Top performing chief executive officers (CEOs) have always referred human assets ahead of customer relationships and their products; they consider them as sustained economic value. The top performing chief executive officers (CEOs) have ranked "Human Skills" in top five rankings of forces that impact an organization or a company. Large percentages of employees in well known companies are receiving trainings to be sustained in the industry but a small percentage of employees are not receiving the trainings they need in companies that are now performing well. In today's era the companies or organizations have a compulsory need to maximize their human assets by providing right skills for right people at the

right time. Embracing the right level of project management training for their IT companies. This will dramatically reduce the attrition and safeguard the time invested and the financial investment made for hiring employees for their companies. This study paper will outline the benefits that your organization/company will achieve after project management training. The advantages gained after training will be sales, product development, projects success and adoptions, risk management and retention of employees for a longer period of time. You will be able to calculate the **ROI (return on investment)** from a well designed project management skills training program that will help you for solutions of your business needs.

LITERATURE REVIEW

Bediako.A.K[2002], the author in study is saying that not negotiable for organization's to adequately train their corporate employees in order for them to perform efficiently and optimally in order to achieve their set goals and objectives of the era.Harrison.R[2000],the effectiveness of the HRD system as well as the efficient development of employees' learning and motivation, however, have been criticized as being negatively impacted by a lack of support, commitment, involvement, and cooperation in the development of human resources.King.D and Ritchie.S.M [2012],it was emphasized that the implementation problems in context-based learning are similar to those in problem-based learning. Other academics have discussed similar implementation issues with project-based and inquiry-based learning, two other student-centered learning environments.Kennedy.P.E, Chyung, S.Y,Winiecke, Brinkerholff.R.O [2013],the author say that for any organizations to achieve its all stated goals and all objectives in this extremely competitive world, it is impossible to overstate the importance of adequate and relevant corporate employees training and development sessions. Organizations are expected to identify their corporate employees' training needs and design training sessions accordingly that will allow them to best utilize their workforces in order to achieve all the organization's goals for that era.McCourt.W and Derek. E [2003], the authors express that it is extremely important to note down what the organization's must be able to identify all the needs for training sessions of its professionals and development sessions and therefore select all the techniques suitable according for their needs. Plan how they will put them into action and then assess the results.Mergendoller, Markham.J.R, Ravitz.J, and Larmer.J[2006],the authors suggested that

studying and evaluating project management methodologies, procedures, and tools developed in business chamber just to improve problem-based learning's in schools would be worth a million. McNamara.C[2008], Trainings is required to improve corporate workers' capability, reasoning ability, and competence, which will improve organizational performances and assist in gaining a lot of competitive advantages. Employees' efficiencies, innovation, invention, and ability to accept all the new technologies and techniques improve as a result of training and development sessions. Noe, E [2000], Employee training sessions and development workshop is a high strategic decision to facilitate all the learning of job-related knowledge, skill sets, abilities, and behaviors that are critical for efficient performance and capable of increasing organizational effectiveness. Rowden [2002], the author suggests that trainings may be a awesome useful tool for increasing job satisfaction level because higher the employees performance results in higher management appreciations, which makes the employee feel more at home in his or her given positions. Rowden.P.M and Conine.A [2005], employees who learn as a result of a training programme demonstrate a greater level of job satisfaction along with superior performance. Trained employees are more able to satisfy the customers.

Professional trainers working with the senior management team to bridge the training gap

There are authorized training providers that have the ability to work with IT industry to address all the needs of the senior management team and HR teams. They are as follows:

- Performing skills gap analysis.
- Linking project management training to business needs.
- Driving training effectiveness metrics and performance.
- They are one stop shop training providers and are not only limited to just project management training but they also offer other IT technology training like lean IT management and other related training.
- They are hosting the learning management systems and integration into existing era.

Framework related to employees project management training programs

- **Adaptive Project Framework (APF)** – In this the employees are trained how to take the first decision and pick the suitable existing approach and adapt it to the given project by the management. How to speak to the client about the changes to be made in the project

and how it will benefit the client. This training will teach the employees to identify the different type of risk and how to handle the changing client demands frequently. The candidates are trained on tool called Paymo also.

- **Extreme Project Framework** – In this the employees are taught the set of leadership practices for delivering values to the face of volatility. Candidates are explained how to apply this framework environment in complex projects. They are taught that there is no failure option available, product quality life is very important. They are explained how the speed, innovation and profitability are countable.

Benefits

The employees can now handle to the entire situation that is changing every second in the project. The team thinks and regards that the project will happen. The team members of the project have the freedom to bring their own touch in the project.

- **SCRUM** – The team of employees are trained how to quickly react and adapt to new situations within a project. They are trained how to break the project in small parts or user stories and how to develop the software product faster. They are trained to deliver only those modules of the project that are suited under DoD (Definition of Done). The scrum master is trained to protect his/her team from external work that comes from scrum product owner or other business heads and how to maintain the sprint backlog throughout the project lifecycle. The scrum product owner is trained how to maintain the product backlog throughout the project lifecycle. The training is lead through playing role plays and also taking business cases to make the candidates how various things are performed. The minimum training of SCRUM is carried for two days and maximum three days for eight hours per day and maximum 10 candidates are trained per batch.

Benefits

SCRUM benefits the team to divide the project in sprints and one sprint is of minimum 15 days or maximum one month. All the team members learn little work of other team member for example programmer learns how to do testing from his team mate called tester , then testers also learn how to do some critical programming work so they can also help when free. SCRUM has three roles in it that are SCRUM Product Owner, SCRUM Master and SCRUM team that helps to manage the project task accordingly like the SCRUM Product Owner manages product

backlog, the SCRUM Master manages the sprint backlog and the SCRUM team perform the task according to the sprint backlog.



Fig.1 : Benefits of SCRUM

- PRINCE2 (Projects in Controlled Environments)** – This framework training helps to explain the project accountability between a board and a project manager. It trains an individual as a project manager and helps the individual how to manage a team and how to divide the task among the team members. The candidates are trained on the three phases and seven phases of PRINCE2. In the training the employees of an organization are trained on tools like Microsoft Project, P2ware, in-Step Blue. The training is led through playing role plays and also taking business cases to make the candidates how various things are performed in an organization. The minimum training of PRINCE2 is carried for two days and maximum five days for eight hours per day and maximum 10 candidates are trained per batch.

Benefits

This is widely recognized and understood and so provides a common vocabulary for all those involved in a project, which helps effective communication.[5] This method also provides for the explicit recognition of project responsibilities so that participants understand each other's roles and needs.[5] There is a defined structure for accountability, delegation, authority and communication.[5] The development of PRINCE2 was driven by the feedback from end-users, project management specialists and a review panel of 150 public and private sector organizations.[5] This has resulted in a generic best practice method which is flexible enough to

be tailored to the specific needs of different organizations for all projects, including agile delivery. PRINCE2 is compatible with all other project management certifications as it provides the technical structure of the framework for the project, which will complement the softer skills learnt on other qualifications.[5]

Definition of project management methodology

It can be defined as a model which project managers use for the design, planning, implementation and achievement for their project objectives. There are many types of project management methodologies to benefit different types of projects.

Project Management Methodologies used in IT industry

The popular project management methodologies used in IT industry is as follows:

- Agile
- SCRUM
- KanBan
- Lean Development
- Six Sigma
- Waterfall
- Dynamic Systems Development Model (DSDM)
- Extreme Programming(XP)
- Feature Driven Development
- ITIL
- PRINCE2
- RAD

Agile – It is most famous project management methodology used in IT industry. It is mostly suited for projects that are incremental and iterative in nature. Agile was originally invented for software development to overcome all the drawbacks of waterfall methodology. Agile methodology gives serious attention towards technical detail and design, enhances agility. When agile methodology is used we can accommodate all changing requirements the development

stage. Customer satisfaction can be seen from early stages and throughout the software delivery; it enables face - to - face interaction. Agile gives faster delivery of working software. Collaboration between stakeholders and software developers throughout the projects. Agile methodology shows simplicity, support, trust, and motivates the people involved in the complete project. Agile methodology is frequently used to deliver major complex projects. Agile uses six main deliverables that are as follows - product vision statement, product roadmap, product backlog, release plan, Sprint backlog, and increment, these features agile methodology to emphasis on collaboration, continuous improvement, flexibility and very high quality results.

SCRUM –It is also a project management methodology used in IT industry to delivery software development projects on time. SCRUM has SCRUM Roles, SCRUM Events and SCRUM Artifacts.

SCRUM Roles

- **Product owner:** Product owner is an expert who represents the business stakeholders, and is also the voice of the customers.
- **Scrum master:** Scrum Master act as a servant-leader who ensures the understanding and execution of Scrum to his team.
- **Development team:** Group of high end professionals who work together to deliver a particular product (i.e. Designers, programmers, testers).

SCRUM Events

- **Sprint:** A sprint time frame never exceeds more than one calendar month and is consistent throughout the software development process.
- **Sprint planning:** In this meeting the entire Scrum team gets together at the beginning of any sprint so that they can plan for the upcoming sprint.

- **Daily Scrum:** It is a 15 minute time boxed meeting held every day of the Sprint, where the Scrum team members discuss all the previous day's achievements and obstacles faced in completing the work and what he/she is planning to complete today.
- **Sprint review:** It is an informal meeting held at the end of every sprint and no presentation slides is required. Here the Scrum team discusses what they have completed and what is to be done in the next sprint and they also discuss feedback of stakeholders.
- **Sprint retrospective:** It is a time boxed meeting may be of 3 hours where the scrum team discusses about what went good in the last sprint and what went wrong in the last sprint and what all improvements they can do for the next sprint and tools they require for the next sprint.

Kanban – Kanban is another famous agile framework that is used in IT industry to develop software project. It is similar to SCRUM project management methodology. It focuses on early releases of product delivery and self-managing teams. KanBan was a concept that was invented in 1940 on the production lines of Toyota factories. It is a visual method that aims to deliver very high quality results by painting a picture of the workflow process so that it can identify all bottlenecks on the early stages of the development process. KanBan operates on the six general practices as follows:

- Visualization
- Limiting work in progress
- Flow management
- Making policies explicit
- Using feedback loops
- Collaborative or experimental evolution

Lean Development (LD) - It is a project management methodology where satisfying the customer comes as the highest priority. In this methodology the team is highly motivated to

provide the highest value for the money paid by the customers. Lean development methodology mainly focuses on developing change-tolerance software.

Waterfall – Waterfall model is the traditional project management methodology used in IT industry. In this methodology you can only move from one phase of development to another only when the current phase is completed. In waterfall model no changes could be added in between the phase and waiting time for the product was too long. The major drawback of waterfall model was that, all the specification of the product was collected at the starting of the project from the customer and no changes or new requirements from the customer were entertained by the development team for the specific product. The phases in waterfall model are as follows:

- Requirement gathering
- Analysis
- Design
- Coding
- Testing
- Deployment

ITIL (Information Technology Infrastructure Library) - ITIL is a collection of best practices in project management. It is a methodology that covers all broad aspect of project management which starts from the organizational management level.

Benefits of Project Management Method

- It helps to get focus on the right things at the right time and in the right way.
- Improves customer satisfaction.
- Improves employee's job satisfaction.
- Improves the team development and growth.
- It helps you to be competitive in the market.
- It offers opportunities to expand your organization services.
- It offers better flexibility.
- It increases quantity and quality of the products.

Disadvantages of Project Management Method

- Documentation gets sidelined sometimes because of this it makes difficult for new team members to get up to the pace.
- In some methods there are short cycles that don't give suitable time for the design phase process, so the designers have to redevelop over and over again due to the negative feedback from customer.
- Times come when developers are out of work and cannot use them on another project as we will need them back soon to complete the previous project.
- Agile method demands more time from other methods has there is a necessity for developer and customer to interact constantly with each other .
- Difficult of measure progress in waterfall model because progress happens across several stages/phases.
- Sometimes scope is creep and experience rot.
- Sometimes project can become ever-lasting project as there's no clear end for it.

Research Methodology

The data was collected through primary and secondary data sources. While conducting this study primary data was gathered through survey questionnaires were prepared for data collection. There were 5 questions that the participants or respondents had to answer and the questions were based on project management training and methodology and design patterns of training and its benefits. The respondents were given sufficient time frame to understand and ask clarification about the study and questionnaire if they had any before completion of the questionnaire. The targeted respondents were from IT sector respectively of Mumbai region only. While conducting the study the response rate was 100%.

DATA ANALYSIS& INTERPRETATION

Q1. Have you ever undergone any project management training programs or sessions?

Opinion	Respondents	Percentage
Yes	50	100
No	00	00
Total	50	100

Table 1.1

Sample Standard Deviation, s	35.355339059327
Variance (Sample Standard), s^2	1250
Population Standard Deviation, σ	25
Variance (Population Standard), σ^2	625
Total Numbers, N	2
Sum:	50
Mean (Average):	25
Standard Error of the Mean ($SE\bar{x}$):	25

Table 1.2

Primary Resource

100% of the respondents have said yes thatthey have undergone any project management training programs or sessions.

Q2. Do you think that project management training sessions needs to be well planned and are of sufficient duration of training hours?

Opinion	Respondents	Percentage
Strongly Agree	30	60
Agree	20	40
Neutral	00	00
Disagree	00	00
Strongly Disagree	00	00
Total	50	100

Table 2.1

Sample Standard Deviation, s	14.142135623731
Variance (Sample Standard), s^2	200
Population Standard Deviation, σ	12.649110640674
Variance (Population Standard), σ^2	160
Total Numbers, N	5
Sum:	50
Mean (Average):	10
Standard Error of the Mean ($SE\bar{x}$):	6.3245553203368

Table 2.2

Primary Resource

60% of the respondents strongly agree that project management training sessions needs to be well planned and are of sufficient duration of training hours and 40% of the respondents only agree that project management training sessions needs to be well planned and are of sufficient duration of training hours.

Q3. Any types of project management training programs have you attended? Choose from the following list?

Opinion	Respondents	Percentage
PRINCE 2	10	20
PMP	10	20
Lean Six Sigma	10	20
Kanban	10	20
ITIL	10	20
XP	00	00
Total	50	100

Table 3.1

Sample Standard Deviation, s	4.0824829046386
Variance (Sample Standard), s^2	16.6666666666667
Population Standard Deviation, σ	3.7267799624996
Variance (Population Standard), σ^2	13.8888888888889
Total Numbers, N	6
Sum:	50
Mean (Average):	8.3333333333333
Standard Error of the Mean ($SE\bar{x}$):	1.6666666666667

Table 3.2

Primary Resource

20% of the respondents have attended PRINCE 2 then other 20% of the respondents have attended PMP and 20% of the respondents have attended Lean Six Sigma and other 20% of the respondents have attended Kanban and remaining 20% of the respondents have attended ITIL and no one has attended XP training program.

Q4. Isthisproject management training programs or sessions are effective and helpful on a long run?

Opinion	Respondents	Percentage
Strongly Agree	25	50
Agree	25	50
Neutral	00	00
Disagree	00	00
Strongly Disagree	00	00
Total	50	100

Table 4.1

Sample Standard Deviation, s	13.693063937629
Variance (Sample Standard), s^2	187.5
Population Standard Deviation, σ	12.247448713916
Variance (Population Standard), σ^2	150
Total Numbers, N	5
Sum:	50
Mean (Average):	10
Standard Error of the Mean ($SE\bar{x}$):	6.1237243569579

Table 4.2

Primary Resource

50% of the respondents strongly agree that project management training programs or sessions are effective and helpful on a long run and rest 50% of the respondents only agree that project management training programs or sessions are effective and helpful on a long run.

Q5.Does Company's management plays very important role for the effectiveness of the project management training programs?

Opinion	Respondents	Percentage
Yes	50	100
No	00	00
Total	50	100

Table 5.1

Sample Standard Deviation, s	35.355339059327
Variance (Sample Standard), s^2	1250
Population Standard Deviation, σ	25
Variance (Population Standard), σ^2	625
Total Numbers, N	2
Sum:	50
Mean (Average):	25
Standard Error of the Mean ($SE\bar{x}$):	25

Table 5.2

Primary Resource

100% of the respondents have said yes that Company's management plays very important role for the effectiveness of the project management training programs.

KEY FINDINGS

From the literature and survey sample it was found that project management training and methodologies effects organizational performance of all the individual and corporate employees working in IT industry now days. The study has observed that those companies which conduct project management trainings and development sessions have an increase in the rate of employee's retention. The study has identified the benefits of project management trainings and methodologies for the valuable human assets in IT industry.

CONCLUSION

The different types of project management training have boosted the skills and motivated the employees working in IT industry. The new project management methodology has improved the working styles and gives faster and very high quality of software products to the industry. Further research work can be carried in the area of project management training and the project management frameworks and methodologies.

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