Impact of Technology Training on Knowledge Enhancement and Productivity

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ABSTRACT
Technology training plays a vital role in an organization. Especially for the testers in an Information Technology (IT) organization, the employees are being trained in various automation technologies. It increases the productivity and quality, quickens the process, saves time, and reduces manual work to a greater extent. The productivity of the resource also depends on the effectiveness of the training performance of the trainee in the specified technology. Training would be effective only if it produces desired outcomes. Hence assessing the technology training impacts on the employees is identified as a problem for the study. This study is to analyses the impacts of the training programs on the resources and to what extend these technology trainings helps in improving their knowledge, skills and drive them towards their desired goals. Training would be effective only if it produces desired outcomes. Hence assessing the technology training impacts on the employees is identified as a problem for the study. This study is to analyses the impacts of the training programs on the resources and to what extend these technology trainings helps in improving their knowledge, skills and drive them towards their desired goals. The primary objective of this paper is to assess the impacts of technology training for the enhancement of productivity and knowledge of the employees. To accomplish the primary objective of this study, a survey was conducted by preparing a structured questionnaire. Convenience sampling technique was adopted for selecting sample units for the population. A sample size of 100 respondents was selected and the data collected for the study included both primary and secondary data.

Keywords-- IT industry, Knowledge Enhancement, Productivity, Technology Training, Testing.

I. INTRODUCTION
Information Technology (IT) industry is one of the leading sectors in enhancing the economy of most of the nations. It has produced enormous employment opportunities in India over the past couple of decades. Developers, testers, and business analysts are the key resources in an IT organization. In an Information Technology (IT) organization, the role played by a tester is important. In the development of a project, the testers have to play their roles in all the stages. Starting from the requirement analysis, till the completion of a project, testing has to be carried out. There are two major types of testing, namely Manual testing and Automation testing. In manual testing, more man power hours are required. Automation testing requires technical knowledge of the resource in handling the various automation processes. Hence training of the resource in various technologies is the need of the hour. This paper considers the importance of the technology training being given to the testers and its impact over their knowledge enhancement and productivity improvement.

II. SCOPE OF THE STUDY

To the Organization
The study will help the organizations to understand the present scenario in the industry. It helps to analyse and understand the factors that need to be incorporated and improved in order to have a cluster of well technically trained resources.

To the Respondents
The study will help the respondents (i.e.) the supervisors/ team leads to disclose their opinion and views about the satisfaction and performance level of the resource after attending the technology training programs.

Deliverables
- Impacts of technology training on the knowledge enhancement and productivity of the resources.

III. LITERATURE REVIEW
According to Michael, Self coaching and upward feedback are the two useful supplement extensions to the formal classroom training. This will improve the trainees’ interpersonal performance values. According to Xinyuan, high automation training self-efficacy will reduce technology anxiety and hence increase perception of ease of use with self-service technologies. Yabome says that substantial transfer of training and suggestion of actual utilization of newly learned skills is influenced differently than judgements about the values of the training. The leads also attending the training will strongly enhance the training objective.
Positive encouragements, verbal praises will result in positive utilization of the training output.

Susan says that the organizations invest significant amount of time, money and resource on the management and organising of the training programs. Organizational support, supervisor support, peer support, and participation in a peer support network are considered to be the specific work-environment factors. He says that the trainees who receives high level of organization, supervisor and peer support network will have higher level of transfer of knowledge and skills.

According to Kevin, the most important factor that can affect the transfer of technical skills to the job is the extent to which the trainee is given the opportunity to perform trained task on the job. Activity level and type of task performed also influences in determining the result. Huczynski refers that the main facilitating factors were related to the preparedness of the supervisor to listen to new ideas and allow experimentation of their subordinates. The management style and attitudes of the trainee’s boss were found to be the single most important factor in management training knowledge transfer.

Noe presents a model of motivational influence on training effectiveness, which describes the possible influences of trainee’s attitudes towards their behaviour, job, career, and work environment on learning, behaviour change and the attainment of desirable organizational outcomes. Motivational components of the model includes the locus of control, expectancies, career and job attitudes, reaction to skill assessment feedback, motivation to learn, motivation to transfer, and perceptions concerning the work environment favourability. Self-assessment measures concerning career goals, interest, and skills may increase training effectiveness. Providing employees with information concerning the needs assessment techniques may reduce suspicion, fear and animosity towards training programs.

Work group support and situational responses will facilitate the change adoption for the employees.

Jean says that training evaluation is always a challenging area to handle. Especially with the new recruiters, they have to be clearly explained and understood on the baseline of the training and its purposes. This has to be done before the start of the program. This will impact on the participation of the employee and in their progress results. Jack says that the training and evaluation measurement regarding the effectiveness of the training is being done through the evaluation of the participants by their respective team leader. Feedbacks are being given by the evaluators.

IV. DATA ANALYSIS

The task of data collection has been carried out after the chalk out of the research plan and design. The primary data was collected using questionnaires and interviews on the respective topic with 100 respondents in the corresponding field of study.

Hypotheses:

There are two major hypothesis involved in this study. They are listed as follows.
1. There is no relationship between the knowledge enhancement and post-technology training work implementation (H10)
2. There is no relationship between the productivity and post-technology training work implementation (H20)

Analysis 1:

This analysis is being carried out to study the performance/productivity level of the testers after undergoing the technology training program. The analysis is being done with a five point scale ranging from Excellent-5, Very Good-4, Good-3, Average-2, Below Average-1. 5 being the highest value and gradually decreasing towards the lower value 1.

Table 1: Productivity level after undergoing the technology training program

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
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<tbody>
<tr>
<td>Excellent</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Very Good</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Good</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Average</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Below Average</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

MSV 20.75

From the above table, 20 percent of the supervisor/team leads have said that the performance level of the trainee after the training program was excellent. 75 percent of the supervisor/team lead have said that the technology training program was very good. 5 percent of the supervisors have said that the productivity level of the trainees was good after undergoing the training program. The Mean score value was 20.75. The below figure represents the productivity level.
Analysis 2:
This analysis result shows the level of trainee knowledge extended in application of learning at work. The full fruitiness of the technology training can be observed from the extent of application of the knowledge obtained from the training. The training is said to be fully satisfied when the trainees put their full knowledge in their work environment.

Table 2: Knowledge application at work

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>NO. OF RESPONDENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Very Good</td>
<td>75</td>
<td>63</td>
</tr>
<tr>
<td>Good</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Average</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Below Average</td>
<td>0</td>
<td>0</td>
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From the above table it is understood that the 21 percent of the trainees have applied their knowledge in their work place. 63 percent have applied very good and 16 percent good. This shows the knowledge increase of the employees, which in turn has helped them in applying their gained knowledge in their committed tasks. The diagrammatic representation of the analysis is given below.

Analysis 3:
This analysis is done to study whether there is any relationship between the year of experience of the employees and their level of knowledge being applied in work. Chi-Square analysis is carried out for this purpose.
Table 3: Chi-Square Test – Experience and Level of trainee’s knowledge applied in work

<table>
<thead>
<tr>
<th>VALUE</th>
<th>Pearson Chi-Square N of Valid Cases</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>33.297</td>
<td>100</td>
<td>12</td>
<td>.001</td>
</tr>
</tbody>
</table>

The calculated Value is 0.001, which is lesser that the critical value of 0.05. This says that the null hypothesis (H0) is rejected. Hence there is no significant relationship between the work experience and the level of trainee’s knowledge applied in work.

**Findings**

- There is a significant relationship between the knowledge enhancement and post-technology training work implementation
- There is a relationship between the productivity and post-technology training work implementation
- Knowledge of the trainee is being enhanced after attending the technology training program
- Technology training improves the work ability of the employee.

**V. CONCLUSION**

Technology training is conducted in all organizations to improve the skills of their employees. So that they can, learn new technologies and get practical experience. The performance level of the employees is evaluated after the training. This will help the supervisors/team leads to evaluate their subordinates and assign works accordingly. Trainees after completing their technology training and reporting back to their projects should assess themselves to what extent their training is useful in their day to day work effectiveness improvement. The technology training will increase the productivity and the individual knowledge enhancement. This will motivate and inspire the workers by letting them know how important their jobs are and giving them all the information they need to perform in their jobs.

**REFERENCES**