International Journal of Engineering and Technical Research (IJETR)
ISSN: 2321-0869, Volume-1, Issue-10, December 2013

Evaluation of an employee in testing project

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***Abstract*— In this paper we will discuss how to evaluate an employee for testing project taking all the works that an employee do in a testing project as elements of calculating efficiency, then prioritize them and giving weight-age to elements and at last calculate employee efficiency. The more the efficiency the employee is better. Employee efficiency is always less than 1.**

***Index Terms*— an employee for testing project, The more the efficiency the employee is better.**

I. Elements in testing project to evaluate an employee

1. Number of defects opened.
2. Number of testcases written (weight).
3. Number of testcases executed (weight).
4. Number of pages of documents he has studied.
5. Knowledge shared (Number of slides shared)
6. Documents prepared (Number of pages/slides)
7. Number of employee he assisted.
8. Project Audit.
9. Innovating idea submitted in project.
10. Knowledge sharing session attended.
11. Consciousness.

II. Priority :

Now we will prioritize the elements i.e. which element should be given more weight-age and which should get less weight-age.

Now, Number of employee he assisted, Number of pages of documents he has studied, Knowledge sharing session attended, Documents prepared, Knowledge shared are related.

Let us see from the view point of an experienced employee.

What he should do : Should share knowledge to the fresher employees to help them grow up in the industry. The elements for an experience employee only are : knowledge shared, documents prepared, Number of employee he assisted. These are not work of a fresher employee.

Documents prepared should have higher priority than knowledge sharing session. Because first point, before sharing knowledge one has to make a document first. It will help the project manager to give fresher the documents they want to read prepared at any point of time. Because documentation is very important in Software industry. Second point, one will love to make document rather than going informal training like number of employee he assisted. Because it will help to utilize the time of both experienced employee and fresher employee. So the priority is as below :

Documents prepared

Knowledge sharing

Number of employee he assisted.

Let us see from the view point of a fresher employee.

What he should do : He should learn to grow up faster (the elements are : Knowledge sharing session attended, Number of pages of document he has studied). Now if we prioritize Number of pages of document he studied more than Knowledge sharing session he has attended he would love to study a document rather than asking for a knowledge sharing session. It will help the experienced employee to have more time in other work (like Project Audit etc.) and a fresher is intended to learn first. So it will save time of experienced employee and the fresher will give more time in studying the documents because he has no other work rather than learning. So the time is utilized for both the employee in good manner. So priority is as below :

Number of pages of documents he has studied.

Knowledge sharing session attended.

Now, the question comes, who should be given more priority : a fresher or an experienced employee. Obviously an experienced employee because if an employee is lazy to learn then he will be approximately a fresher after his/her experience. If fresher employees are given lesser priority (weight-age) then the lazy employee will get lesser score as his/her efficiency.

Project Audit is an experienced employee's work and it should get higher priority than every employee's work. So it should get higher priority than fresher employee's work (Number of pages of documents he has studied, Knowledge sharing session attended, Consciousness).

As every employee needs to be conscious on his/her working time so it should get higher priority between every employee's work because without being conscious time is wasted.

So the priority of the elements are as follows :

1. Innovating idea submitted in project.
2. Number of defects opened.
3. Documents prepared.
4. Knowledge shared.
5. Number of employee he assisted.
6. Number of testcases executed (weight).
7. Number of testcases written (weight).
8. Project Audit.
9. Consciousness.
10. Number of pages of documents he has studied.
11. Knowledge sharing session attended.

Manuscript received December 09, 2013.

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III. Definition of Various Efficiencies :

For every element we will define efficiency as follows :

1. Innovating efficiency = number of innovating idea given by an employee/Number of employee in the team.
2. Defect efficiency = Number of defect opened by an employee/total number of defects opened.
3. Documentation efficiency = Number of pages an employee documented/Total number of pages documented by a team (Not number of documents prepared rather number of pages of document)
4. Knowledge sharing efficiency = Number of knowledge sharing session given by an employee/Total number of session given by the team
5. Assistance efficiency = Number of employee he/she assisted/Total number of employee in the team.
6. Execution efficiency = Total weight of testcases an employee has executed/Total weight of testcases executed by the team.
7. Testcase writing efficiency = Total weight of testcases written by an employee/Total weight of testcases written by the team.
8. Auditing efficiency = Number of employee in the team/100*(Number of Auditor) (If a team strength is more than 100 then a suitable base value should be chosen to mark it less than 1)
9. For definition of Consciousness please see the paper : "Removal of History table from Database & Update Command from SQL & Edit option from GUI" by Shubhakar Paul published in International Journal of Engineering and Technology. Publication date : 31st December, 2013. Publisher : Engineering Research Publication.
10. Document studying efficiency = Number of pages an employee has studied/Number of pages of document came in project.
11. Knowledge sharing session attendance efficiency = Number of session an employee has attended/Total number of session attended by all team members.

IV. Employee Efficiency :

Now, we give every element a weight-age. Obviously the most prior element will get more weight-age and less prior element less weight-age. As we have 11 elements for a testing project we give 11 to most prior element, 10 to the next prior element, ..., 1 to the lest prior element.

We define the efficiency of an employee = [∑(weight-age)*(element efficiency)]/∑(Weight-age)

⇨ Employee efficiency = {11*(Innovating efficiency)+10*(Defect efficiency)+9*(Documentation efficiency)+8*(Assistance efficiency)+7*(Knowledge sharing efficiency)+6*(Execution efficiency)+5*(Testcase writing efficiency)+4*(Auditing efficiency)+3*(Consciousness)+2*(Document studying efficiency)+1*(Knowledge sharing session attendance efficiency)}/(11+10+9+8+7+6+5+4+3+2+1)

⇨ Employee efficiency = {11*(Innovating efficiency)+10*(Defect efficiency)+9*(Documentation efficiency)+8*(Assistance efficiency)+7*(Knowledge sharing efficiency)+6*(Execution efficiency)+5*(Testcase writing efficiency)+4*(Auditing efficiency)+3*(Consciousness)+2*(Document studying efficiency)+1*(Knowledge sharing session attendance efficiency)}/66

Note : If other elements are added then it should first prioritize then form the priority list of all the elements and give weight-age accordingly, then calculate employee efficiency.

Program in C to find Employee efficiency :

```
/* Determination of Employee Efficiency */
#include<stdio.h>
#include<conio.h>
void main()
{
 int a,b,c,d,e,f,g,h,i,j,k,l,y,z,ab,x,bc,pq;
 float m,n,o,p,q,r,s,t,u,v,w;
clrscr();
 printf("Enter Innovating idea submitted in project:");
 scanf("%d",&a);
 printf("Enter Number of defects opened:");
 scanf("%d",&b);
 printf("Enter Number of pages of Documents prepared:");
 scanf("%d",&c);
 printf("Enter Nuber of Knowledge shareing session taken:");
 scanf("%d",&d);
 printf("Enter Number of employee he assisted:");
 scanf("%d",&e);
 printf("Enter total weight of testcases executed:");
 scanf("%d",&f);
 printf("Enter total weight of testcases written:");
 scanf("%d",&g);
 printf("Enter Number of Auditor:");
 scanf("%d",&h);
 printf("Enter Consciousness:");
 scanf("%f",&m);
 printf("Enter Number of pages of documents he has studied:");
 scanf("%d",&i);
 printf("Enter number of Knowledge sharing session attended:");
 scanf("%d",&j);
 printf("Enter number of emplyee in the team:");
 scanf("%d",&k);
 printf("Enter total number of defects opened:");
 scanf("%d",&l);
 printf("Enter Total number of pages documented by team :");
 scanf("%d",&y);
 printf("Enter Number of session given by the team :");
 scanf("%d",&z);
 printf("Enter total weight of testcases prepared :");
 scanf("%d",&ab);
```

```
printf("Enter total weight of testcases executed :");
 scanf("%d",&pq);
 printf("Enter number of pages of documents came in project
on a release:");
 scanf("%d",&x);
 printf("Enter total number of session attended by whole
team:");
 scanf("%d",&bc);
 n = a/k;
 o = b/l;
 p = c/y;
 q = d/z;
 r = e/k;
 s = f/ab;
 t = g/pq;
 u = k/(100*h);
 v = i/x;
 w = j/bc;
 n = 11*n;
 o = 10*o;
 p = 9*p;
 q = 8*q;
 r = 7*r;
 s = 6*s;
 t = 5*t;
 u = 4*u;
 m = 3*m;
 v = 2*v;
 n = n+o+p+q+r+s+t+u+m+v+w;
 n = n/66;
 printf("%f",&n);
 getch();
}
```

REFERENCES

Shubhankar Paul, Passed BE in Electrical Engineering from Jadavpur University in 2007. Worked at IBM as Manual Tester with designation Application Consultant for 3 years 4 months. Worked at IIT Bombay for 3 months as JRF. Published 2 papers at International Journal of Engineering and Technology Research Vol1 Issue 7. There title is 1. **Title :** Generate Electricity While Cycling ; 2. **Title :** Generate Electricity Without fuel or any raw material. Here is the link of my papers http://erpublication.org/IJETR/vol_issue.php?abc1=15 Published 2 papers at International Iournal of Engineering and Technology Research Vol1 Issue 8. There title is 3. **Title :** Magic Square of Squares ; 4. **Title :** Twin Prime Conjecture Proof. Here is the link of my papers http://erpublication.org/IJETR/vol_issue.php?abc1=16