Identify and Handling of Risk Analysis by Parallelism

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Abstract - Software industry have its own values in the economic growth of a country. The scenario of this field in the India is also not a small part of the whole. As per the trends India shares almost 20 % of the world's software economy. The tactics and development processes for the software industries always require a certain amount of improvements and certainty to achieve the target. There can be multiple factors which can affect the development process. In this research paper I am showing a much critical problem of risk handling there resolution. There are various models and methods which we can follow for calculate statically but that is not enough. If we really want to optimize the results as well as the success certainty we should improvise our traditional procedures. In the later part of this paper a short improvisation of my side over the traditional one is shown. This method improves our predictability about risks as well as the rectification of that problem.

Keywords : risk estimation, ladder climbing, risk resolution, risk constraints.

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IDENTIFY AND HANDLING OF RISK ANALYSIS BY PARALLELISM

Strictly as per the compliance and regulations of:

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I. Introduction

Its not the incident of recent time when the software industry taking a better place in the global community. Its already had been started in the early 80's with the introduction of internet. Today we are totally surrounded by the software solutions either directly or indirectly, It's become part of our daily life. A small device like our cell phone doesn't work without a proper implementation of mobile software. We require an automated software for a washing machine. Every part of a country's body work on a software platform given by MNC's. There are several challenges for the software software companies either they work for small projects or a large. There are many constraints associated with the development of software within these boundary. The companies have to achieve their target. If they fail to manage and predict these constraints they cannot survive in the crowd. So it is essential for the modern and comparatively a large software domain that it have to manage the different estimation as well as their development plans and methods. The dynamic risk identification and handling plays a big role in the whole story of success and failure. If we become more certain about our project risks related to different phases of working model we can survive take the advantages easily. In this whole paper I have tried at a great extent that I could co-relate my concept with the real life things so that this model and concept become easily understood and implementable. Take a quick picture which says the success story of continuously increasing software industry in India.
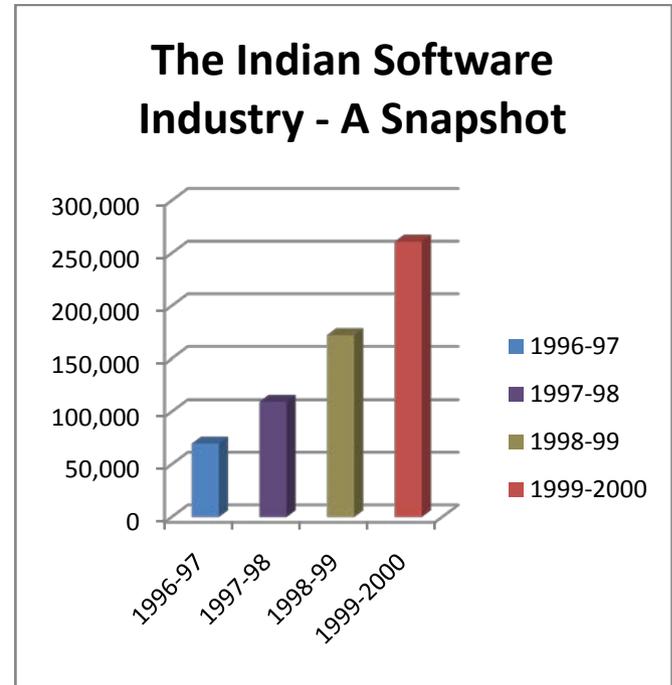

Figure 1 : Scenario of Indian software industry[1]

We can see that it is nearly doubled every year. So it is more challenging for the software industries to maintain continues improvements and ratio success to failure.

II. Risk and their Classification

In simple words we can define the "risk as a hurdle which can chock our process or can be harmful for the target which we want to achieve".

Risk estimation is more important factor in overall process of management. "Risk estimation can be identified as processes which help the project analysts to predict the occurrence of different type of risks at various levels of the project development".

After the identification of different type or risks according to their probability of occurrence a risk management procedure should be followed which help to maintain and rectify the risks, so that we can continue our process.

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There are mainly 3 type of risks identified during my research.

a) *Static Risks*

   i. *Based on formal review of planning document*

These types of risks are basically identified during the early phase during planning with formal reviews of planning documents.

   ii. *Based on the previous trends*

The previous trends based on projects completed also helpful to identify the frequently occurred risks.

b) *Dynamic Risks*

   i. *Sudden Death*

Most dangerous in nature which completely destruct the project. Probability of these type of risks are minimum.

   ii. *Short Circuit*

Which comes suddenly but can be diverted so that not make an effect on the overall process.

c) *Humanly Generated*

   i. Improper decision making.
   ii. Lack of proper planning.
   iii. Lack of resource utilization.
   iv. Less maturity of common sans.

III. RELATION AMONG DIFFERENT CONSTRAINTS TO RISK

Before discussing the actual problem we have to understand the various constraints which are introduced during the whole process. There are a relationship among them one can effect the others.

a) *Success and Time*

Success is inversely proporsnal to the proposed time limit for an activity. When time limit exceed the success ratio decrease.

$$\text{Success} \propto 1 \,/\, \text{Time}$$

As much as the time limit increase different other factors will be effected like-budget, high risk, more working hours per week. So time management is more crucial.

b) *Success and Resource Utilization*

Utilization of resources is also important. Our first and most aim should be the utilization of resources available. We should use them in a manner such that it follow the equation.

$$\text{Min resources \& Max utilization}$$

It saves our time, cost, working hours and increase our success rate.

$$\text{Success} \propto \text{Resource Utilization}$$

c) *Success and Predictability of Risks*

As much as our estimation become problem specific risk analysts are able to resolve them in a short time interval which defiantly increase the benefit and reduce the risks related to different activities.

$$\text{Success} \propto \text{Risk Estimation}$$

d) *Success and Quality*

Quality should be maintained during the whole process because our aim is not only to complete the task with a benefit but have to prepare a final outcome which is according to our expectations and remove the unwanted and harmful factors from the risk estimation process.

IV. PROBLEM IDENTIFICATION

As per the various proposed models earlier there are certain step by step processes with some specific guidelines. A risk analyst check the risks the risks and their level and going to solve them after resolving a particular problem, maintain a record which stores the observations during different activities enlist the risks and solutions etc. But the work is not completed yet. We can improve this process of risk identification then analysis then rectification. Our aim should not only be solve the problems but improvement in timing also with a certainty and surety of non failure.

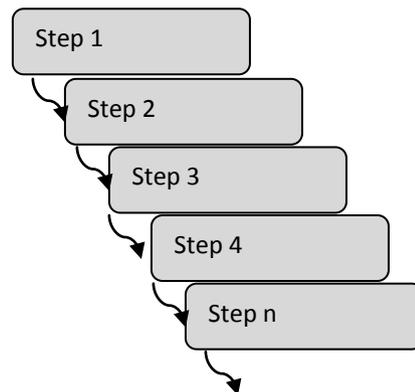a) *Traditional modals based on procedural approach*

Step 1
Step 2
Step 3
Step 4
Step n

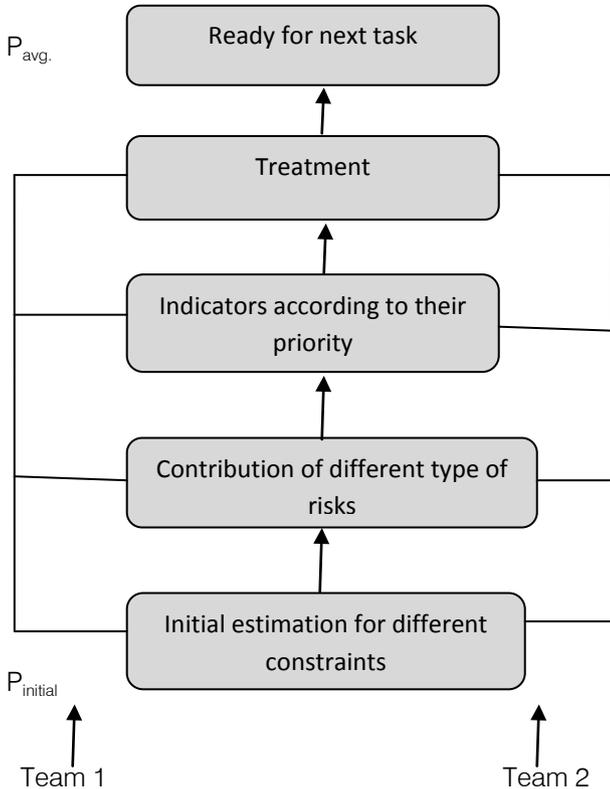*Figure 2 :* Procedural Modal

b) Proposed Modal

$P_{avg.}$

Figure 3 : Risk Analysis and Treatment

The given modal above have some improvements over the traditional one. This modal is very useful for parallel implementation as well. Before going in the detailed implementation first have look at the task of every step.

1) Initial estimation for different constraints - On the basis of previous reports and present circumstances we estimate a value for the every constraint. Which works as a base value for the whole process it can be different for the different activity levels.

2) Contribution of different type of risks - After the first step we can easily classify the risks according to their frequency, nature and by their resolution capability.

3) Indicators - Their can be different type of risks in a phase activity so after classification we can give them an indicator by which they are recognised and resolved.

4) Treatment - When the various type of risks are arranged in way that they can easily identified such that which can be resolved first? More the priority get more preference.

c) Risk Classification

I have given the names of risks related to real life examples like our physical problems so that we can easily classify them. According to my observations there mainly 3 type of risks found during the each phase we can classify them according to their priority.

d) We can put them in three different type of bins

1. Hypertension Risks – Most frequent and most dangerous.
2. Cancer on a head Risks – Less frequent but most dangerous.
3. Sneezing Risks – Most frequent but less dangerous.

Red got resolved first then Orange and at last stage bin with sky blue colour should be resolved.

After implementing the given modal at the last stage we calculate the average value for the risks occurred during the phase and compared with the initial value.

$P_{avg} = P_{initial}$	No loss with no gain
$P_{avg} < P_{initial}$	No loss and gain
$P_{avg} > P_{initial}$	Loss with no gain

The first 1st and 3rd condition is not our concern we are implementing this model for 2nd condition in which we improving our performance with a gain. This analysis and treatment model applied in the each phase of the project like a ladder fashion which we can see in the following figure.
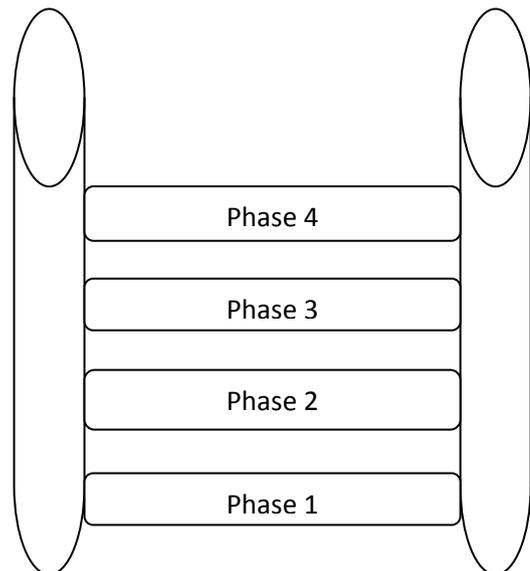

Figure 4 : Ladder climbing with safety

Given 3 conditions are checked during the every stare of ladder, if condition 1st and 2nd found during the estimation we move 1 step forward without any problem. But if we found the 3rd condition then we have to pay our attention for further processing. This

concept is inspired with the real life example when we climb on a ladder we ensure the strength of ladder with every step moved in forward direction. In the same way we check our estimated values with the initial values if the estimated average value is become high then movement without sort out it can be harmful for the remaining phases and we fall down without achieving our target.

V. PARALLEL IMPLEMENTATION AND BENEFITS

The proposed modal is implementable for the parallel processing more than "n" number of projects. With implement it in parallel approach we defiantly increase our performance and manpower.
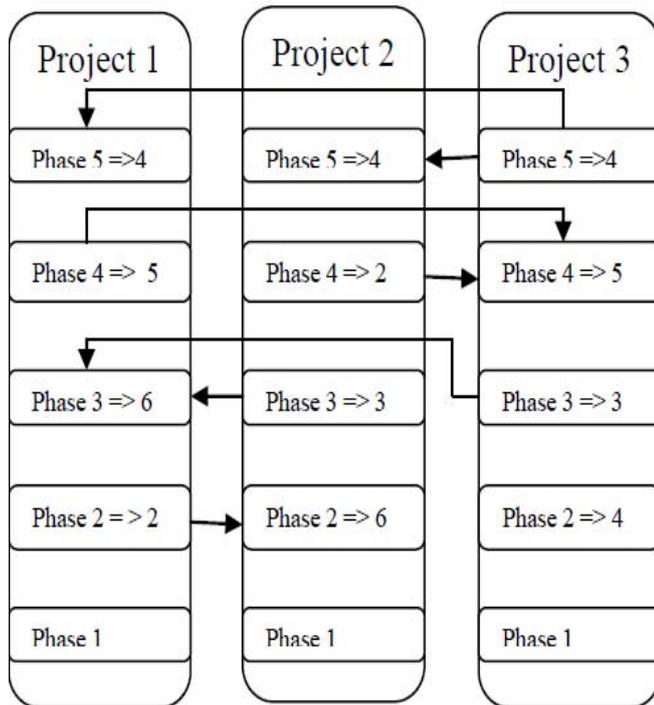

Figure 3 : Parallel Implementation

Necessary condition for every phase : The no of people for every phase must be N/2.

Reason : It is necessary for a project that it should be completed otherwise there could be a situation where nobody left for a project and free people shifted to other projects.

Suppose there are initially 4 person for each project their starting time is same.

1. After phase 1 two members shifted to 2nd project by getting a red token because they have done their work on 1st project.
2. After phase 2nd 3 members of project no 2 got green tokens and 1 member from project no. 3 got a green these members now shifted to project 1 and got a red token.

3. This process of allotting and submitting of tokens remains continue until the project not ends.
4. They have a special token according to their working condition there can be 3 conditions –

   🔴 Red Token: For the people those are working for a phase and not free at that time.

   🟡 Yellow Token: For the people those are near to complete his job.

   🟢 Green Token: Ready to take a task and completely free.

Advantages
   i. We can improve overall process.
   ii. Proper personnel management.
   iii. Less time consuming.
   iv. Risk handling now easy and fast.
   v. More a team member gets red tokens more he able to show his performance.
   vi. Performance of every team member now easily measured.
   vii. Improved predictability about the different risks.

VI. UNIQUE IDENTIFICATION PROJECT OF INDIA

It is the world's largest IT project which is proposed and under implementation by INDIAN government. The future of this project is on a blank path because it is not an easy task to maintain and implement model for 300 crore people. In simple terms, it is about allocating a UID number to each Citizen in India. It can be extended to allocate the UID to each legal migrant at the time of entry into the Country till the person resides in India [2]. In the UID project there are also various serious issues, the first and foremost issue is management of such a huge project. A big amount of economy is invested in this project, so risk management is also very crucial in this concern. The model given this paper can solve this problem at a great extent.

VII. CONCLUSION

The concept given in this paper could be a revolutionary for risks management as well as for the risk estimation. With the help of this concept improvisation at the organization level can be made. Handling of different risks now become easy with help of classified bins. Parallel processing also improves the speed of getting a solution. The ladder climbing also ensures our success with a profit.

REFERENCES RÉFÉRENCES REFERENCIAS

1. NASSCOM report released in 2001.
2. http:\\en.wikipedia.org\wiki\Multipurpose National Identity card.

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