Construction Management Software Packages in India (Risk Management)

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Abstract— **Information technology and project management are evolving more than ever, expect the review of history of project management software in the future will be marked with even bigger challenges and the demand for increased speed-to-market when it comes to products and services. Tomorrow's projects will become larger, more difficult to manage, and more complex. Business teams are getting more diverse and distributed across the world. The economic downtrend in many countries pushes work offshore to countries that have lower labor costs. Project Software Company's fight for a consumer market that wants their products and services delivered efficiently and instantly. Free and demo versions of project management software solutions will be even bigger than before. A comparison of the history of project management software solutions will be marked with more complex and efficient features to cater to the needs of the market.**

The main purpose of this paper is to study and analyze the Market survey in Construction Management Software Packages in construction industry. Also the objective is to study various Software's which are used in construction industries and its effects, to study and compare with the companies who use and don't use the project management software and also study benefits of using Project Management software's.

Keywords— Risk Management, Software's for Risk Management, Projects in Pune region, contractors and builders.

I. INTRODUCTION

Modern developments - The modern history of project management software really took off in the Eighties and Nineties, when the information management sectors grew in leaps and bounds, especially with the advent of the personal computer and networking facilities. This growth resulted in low-cost PCs that can do multi-tasking and efficiently managing complex project schedules. This allowed for the growth of project management techniques as well as software programs. Examples of big projects done during this rapid growth of information technology include the England-France Channel project and the Space Shuttle Challenger project.

What is next? - With the information technology and project management evolving more than ever, expect the review of history of project management software in the future will be marked with even bigger challenges and the demand for increased speed-to-market when it comes to products and services.

Tomorrow's projects will become larger, more difficult to manage, and more complex. Business teams are getting more

diverse and distributed across the world. The economic downtrend in many countries pushes work offshore to countries that have lower labour costs. Project software companies will fight for a consumer market that wants their products and services delivered efficiently and instantly. Free and demo versions of project management software solutions will be even bigger than before. A comparison of the history of project management software solutions will be marked with more complex and efficient features to cater to the needs of the market.
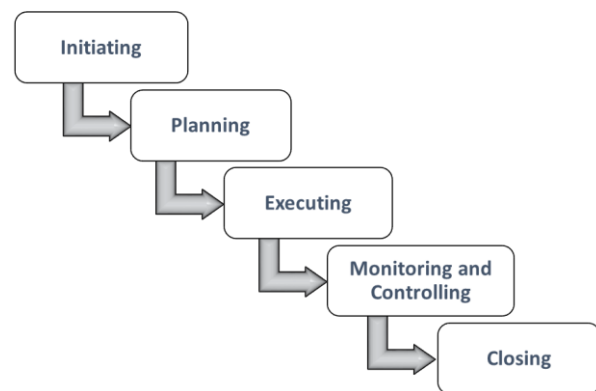

Fig. 1 - Five Process Group

Project Management Software
a) Software available on market can make your job as Project Manager a little easier. Scheduling software comes in a variety of shapes and sizes. With the simplest projects, some people use a spreadsheet to map out who works on what, day by day. However, for most projects, the best known project management programs are Project and Oracle Primavera.
b) Both of these programs come with a ton of features for setting up and managing a project schedule. When we think about all the documents we produced during the life of a project, we quickly realize that a word processing program is an essential part of your project management software. Although every project is unique, project documents are laid out similarly from project to project. We can build document templates so we don't have to start from scratch every time. A spreadsheet program is another must have for all kinds of calculations and analysis. For example, we can put together a spreadsheet to analyse the risks our project faces and figure out which ones we should keep an eye on. A presentation program like PowerPoint is useful for communicating project information at a high level. Or when we want to include

information from a variety of other types of documents. Because a team of people work on a project we need some kind of tool for collaborating with others.

d) Basecamp and Microsoft SharePoint are two of the web-oriented collaboration tools we can use to share files with others, keep track of issues, or even manage a workflow. If we work on very large projects, or in an organization that runs dozens or even hundreds of different projects at the same time, then we should considered enterprise project management software. Enterprise level software provides tools that allow us to find resources with the skills we need and see which resources are available when we need them.

e) It helps us track risks, issues, and other information. And even build document libraries so team members can easily find information they need.

II. DATA COLLECTION

The following list of questionnaire was been circulated to all the Project manager of the contractors and the builders.

1. Name of the Project (Location, client name)

2. What are the most commonly risk occurred in the Project? (Type – Finance, construction, political, legal, environmental, social, technical, etc.)

3. What tools are often used for Risk – identification, analysis, response, monitoring?

4. What type of actions is taken to reduce risk?

5. What is the proactive measure that you take (avoid the risk, combat/reduce risk, use appropriate technology and working methods i.e. Techniques – Brainstorming, analysis of historical data for similar projects, use of checklist, or any other)

6. What type of software's do you use in the organizations? For designing, For planning and scheduling

7. Are there any software's used for risk management as such (e.g. Primavera, ERP, excel, etc.)

8. How is the data entered into it? Its results / outcomes in terms of graphs or charts?

9. Does the project require new technology or development of existing technology in terms of software's used?

10. Do you think that is there any need for any separate risk management software tool?

III. ANALYSIS AND PROPOSAL

Tab. 1 : Analysis Of Case Study

Firms / Organization	Software's used	
	Designing and planning & scheduling	Risk
• Rohan Builders	AutoCAD, Stad-pro BIM Primavera-P6 v8.3, High-rise, MSP, ERP	
• Kolte Patil	External architecture appointed - AutoCAD, MSP, SAP ERP	
• Cushman & Wakefield	AutoCAD, MSP	Excel
• B.G. Shirke	AutoCAD, MSP	
• Paranjape	Own designing team- AutoCAD, MSP.	

Proposal - From the case studies the findings which observed is that the organization / firm uses:

AutoCAD, Stad-pro BIM - For designing

MSP and ERP - For planning and scheduling

Excel - For handling the Risk problems.

•The reviews got from the meetings is that there should be certain well organized and managed structure in the firm so as to reduce the effects which are caused by the risk.   Also   a detailed risk analysis software is required since excel is not that dynamic.

•Primavera is actually a well-organized software, but there are very few technical users who handle this since this software is not that well-known thus not been implemented.

•Using Primavera P6 helps identify and mitigate risks in the course of planning, managing, and completing a project.

•Simply input your information, and wait for the software to determine if any problems exist. For example, worker shifts may be uncovered, have too many employees, or additional raw materials may be needed. This software can be used throughout an entire project, even large, multi-tier projects.

•It allows all involved in a project to carefully monitor resource availability and adjust such resources to meet project demands. Furthermore, software can help identify areas where resource costs may be reduced by analysing resource trends and costs.

•Tracking features allows users to rapidly generate reports, ensure all projects are completed as requested, and maintain baseline adherence.

•Some project may span large geographic areas, require hundreds of workers, and involve many different parties. It enables executive-level staff to communicate with other workers, project managers, and planners easily. Notes can be made to schedule in software to ensure all users see message.

•Breakdown Complex Projects - The size of a project can be overwhelming. It allows project managers to break large projects into smaller, achievable projects, tasks, and activities.
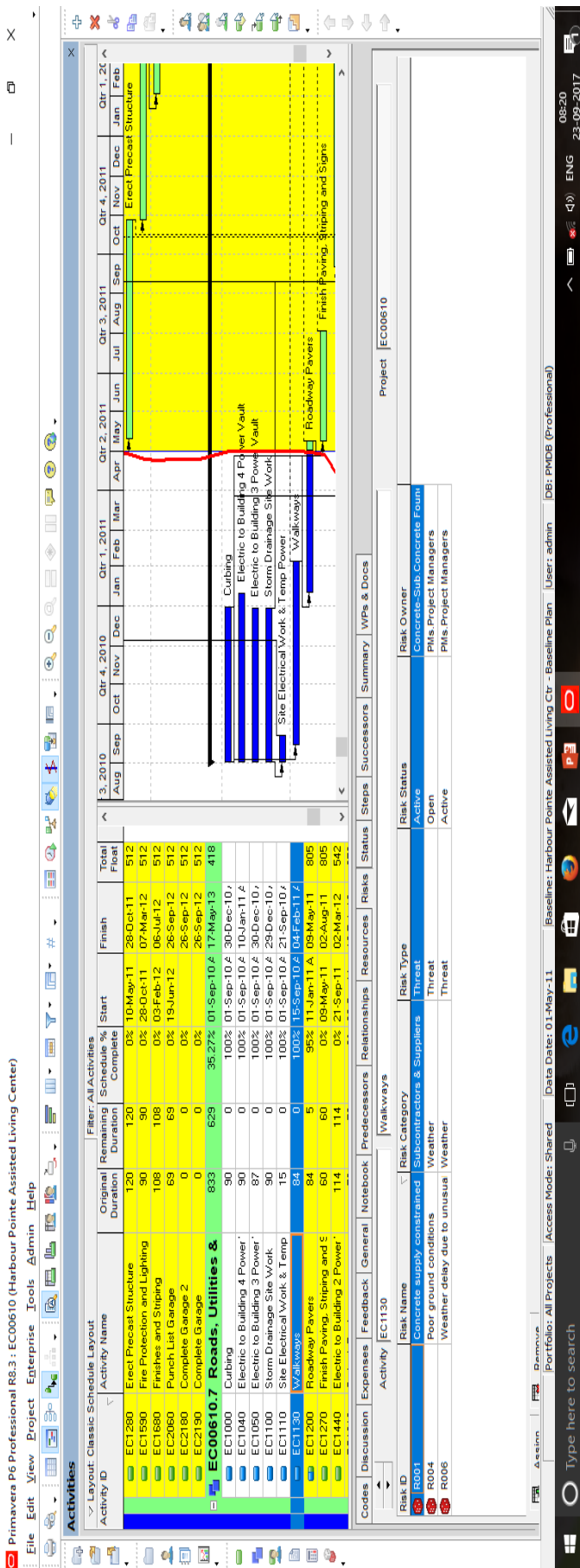
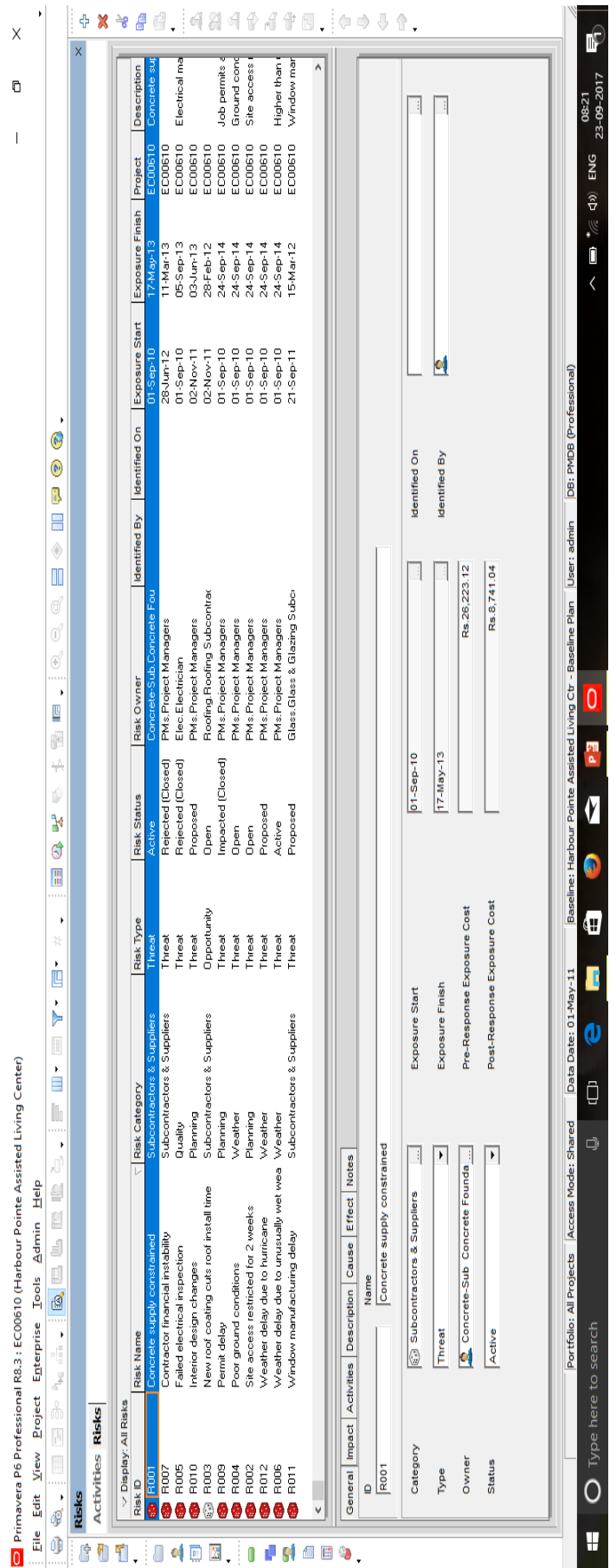Fig. 1 – Detail window, sheet entry and bar chart
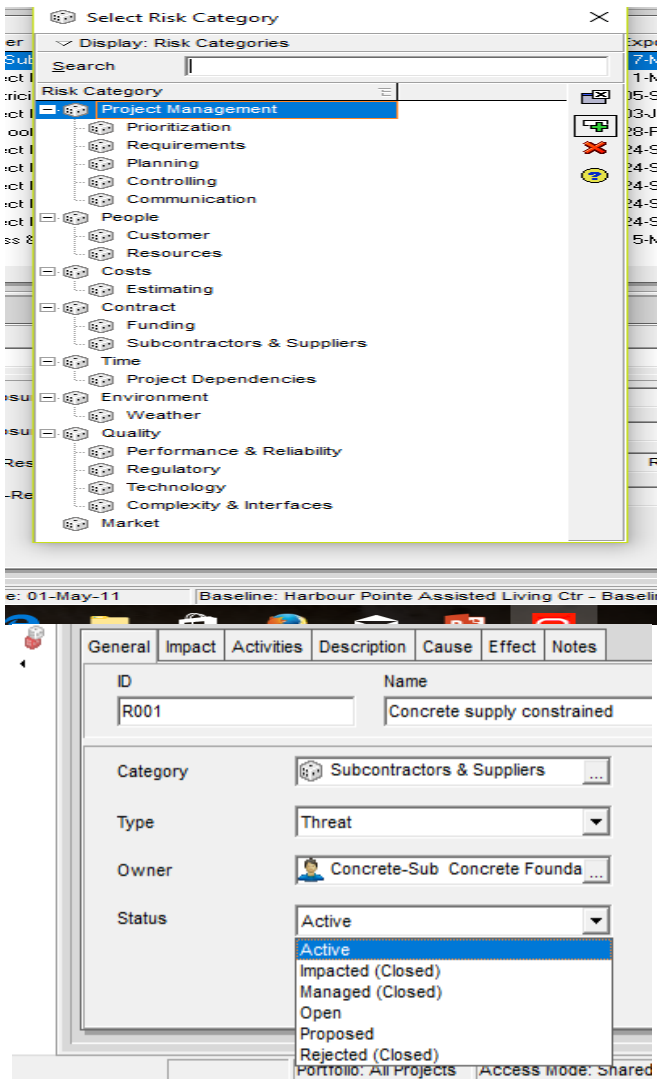

Fig. 2 – Risk data entry sheet window

Fig. 3 – Risk category and general detail

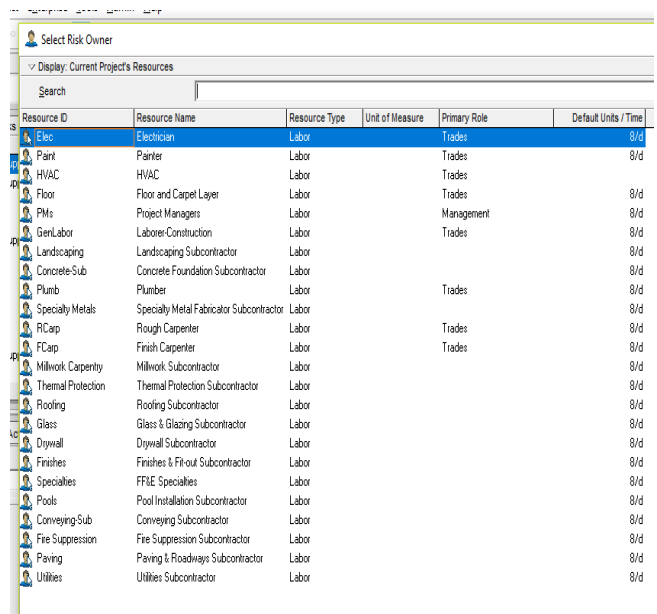Fig. 5 – Cost Variance data sheet

Fig. 4 – Selection of Risk owner and current Project resources
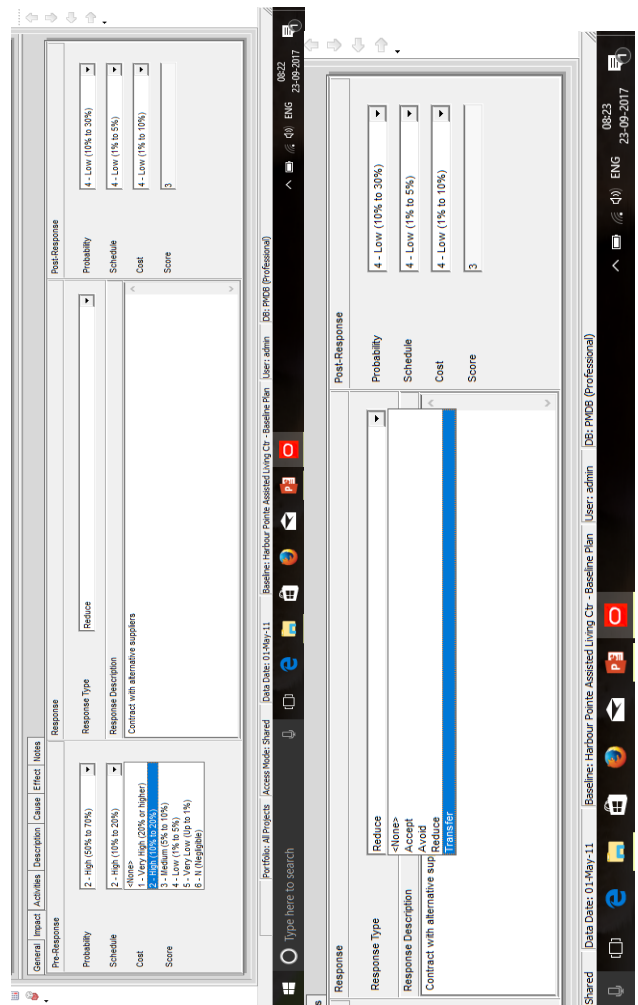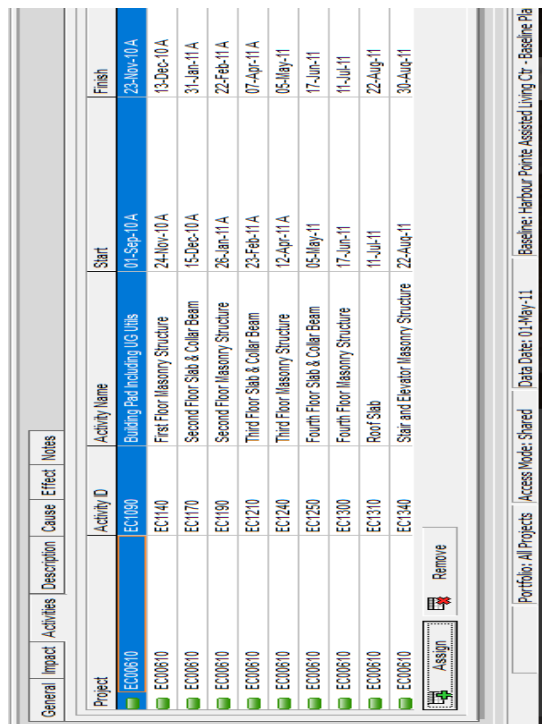

Fig. 6 – List of all activities in which risk occurs

IV.   CONCLUSION

a) From the data collections and the case studies it was found that there is not much use of Risk Management Software in Construction Industry.

b) Methods used were simply the brainstorming, Delphi – technique and other questionnaire related. All the risks which were been noticed before the construction stage and also during construction phase were all been documented in simple EXCEL format. Since it is and easy to understand and handle; this software is used in almost every construction industry.

c) Similarly for planning and scheduling software used is MS Project. For any projects there are various other risks which occur. Some of them are identified at early stage while some during the construction stage, all these risks are been solved and are been documented using Excel software.

d) In India Primavera is not used as such in construction industry since the people are not much aware about the use of this software. Primavera is also a good option to introduce since it saves a lot of time during the project.

e) Besides using these traditional software's new upcoming and advanced software's should be implemented in the construction industry to make the complex working projects simpler and easy going.

f) Primavera would be more beneficial since it can handle many complex projects at the same time without creating any confusion. All the planning and scheduling, expenses, resource allocations, communication and documentation and handling the risk can be done in the same software.

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