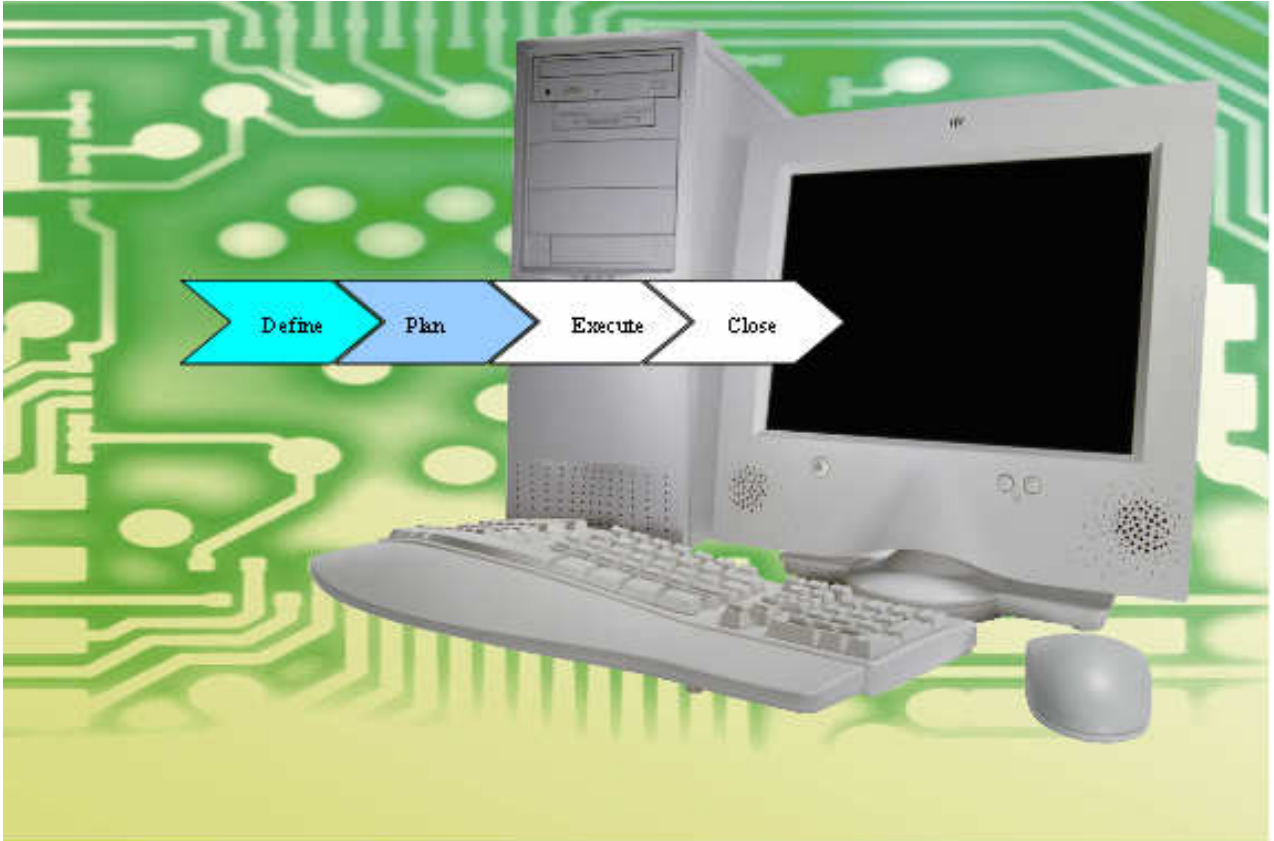


Project Management Software Research Paper



Brian Pasero
MST 512 – Project Management
Instructor – Jeff Oltmann
June 15, 2007

Introduction:

The purpose of this paper is to determine if implementing project management software, specifically Microsoft Project, would improve the effectiveness of my organization's project management. I have had the opportunity to work on many projects throughout my career at Hitachi High Technologies, America. Some of them have been successful and others have not. In both cases, the projects were not organized from the beginning. This could be due to the fact that HHTA lacks a solid project management process.

To determine if Hitachi, or any organization, would benefit from using a project management software program (particularly Microsoft Project), I interviewed people at different types of organizations. The corporations include: Intel, Banfield Pet Hospital, PacifiCorp, Microsoft, Polyphaser Corporation, Hitachi and several other organizations.

The interview questions are as follows:

1. Do you (or have you) used MS Project in the workplace for projects?
 - a. If no, do you use different project management software?
 - b. If so, which program?
 - c. If not, proceed to question #6.
2. Do you think it enables you to more effectively manage projects
3. Do you use Project throughout the entire project, or just during the planning phase?
4. What is one thing you like about MS Project?
5. One thing you dislike?
6. Do you use any other methods for managing projects?
7. Does your company use standard project management techniques? I.e. Agile, Waterfall, Scrum, stage gates, etc?

As a result of the survey I was able to obtain both advantages and disadvantages of using project management software to manage projects. The items listed under each heading are paraphrased from the answers obtained from the survey. The actual answers to the surveys can be found in the separately attached document.

Strengths:

- The ability to see the "big picture".
- Visual representation of the project.
- Microsoft Project is particularly useful in the planning phase.
- The ability to start with high-level tasks (summary tasks) and break them down into detailed data points (work packages).
- Reporting features.
- Useful with many resources involved in order to manage dependent tasks.
- Beneficial for waterfall applications.
- Intuitive for people with training in project management.
- The ability to link items and control durations.
- Useful for tracking performance against schedule (PAS).

- If updated throughout the course of the project, MS Project can be used to hold people accountable.

Weaknesses:

- Difficult to get actual durations on a regular basis (to get a true in-progress picture).
- MS Project does not line up with many organizations' standard time reporting systems (payroll, timesheet, SAP, etc).
- Rigid default corrections are difficult to customize.
- Not all people are comfortable with the output of MS Project.
- Not effective for Agile +, Scrum, AUP¹ or FDD² project management techniques.
- It doesn't do much for the primary owner of the project other than provide a checklist. This can be accomplished with Excel.
- Not ideal for large projects.
- Microsoft Project requires large amounts of time and work to get the software to match the true schedule.
- The schedule must be completely overhauled if large changes occur – Project doesn't account for the human factor.
- Microsoft Project is a large application that requires training to learn and master.
- An extra cost associated with the software.
- Does not account for the spatial aspect of human thought.

Analysis:

The weaknesses of Microsoft Project clearly outweigh the strengths. The key strengths highlight that project management software is particularly useful in the planning phase. A common theme was that project management software enables the project manager to accurately track performance against schedule (PAS).

While these are notable advantages, examining the weaknesses suggested an underlying issue about project management software. It can be rigid and difficult to work with. This renders it near useless for project management disciplines such as Agile, Scrum, AUP and FDD style of project management. This was emphasized by multiple people surveyed. To further expand on this idea, I have broken down the disciplines of the people interviewed. For each discipline, I further expanded the results to show how many people in each discipline use MS Project. The results are shown below in figure 1.

¹ AUP – Agile Unified Process

² FDD – Feature Driven Development

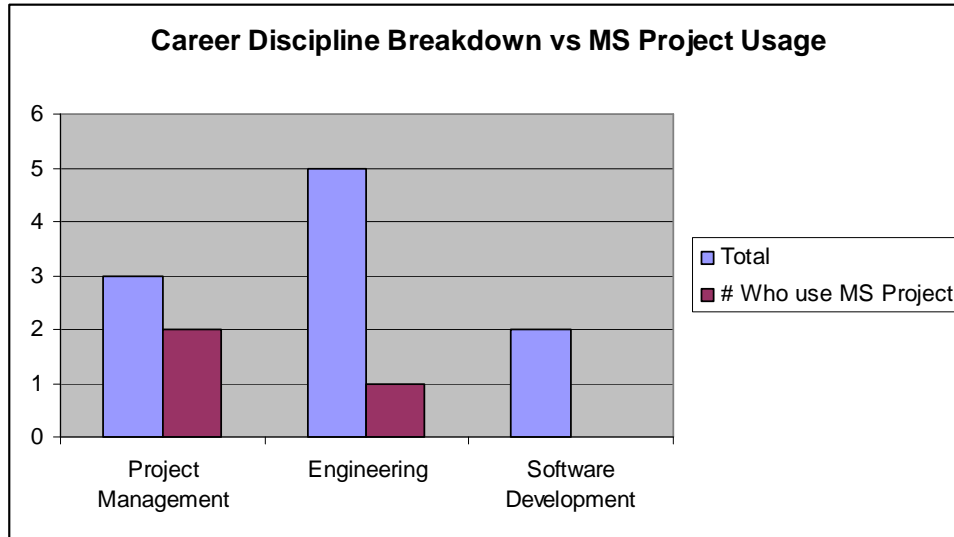


Figure 1

As evidenced from the table, there are no software developers that use MS Project to manage projects. The highest percentage of MS Project users fall in the project manager category (data shown in the appendix in table 1).

The data supports the fact that the rigidity of project management software does not lend itself to the human factor of managing projects. No project management software can recreate the creativity and spatial thinking that can be accomplished on a white board, sticky notes, conversations and paper.

The benefits of paper are vividly demonstrated in an article entitled, “The Social Life of Paper”, by Malcolm Gladwell (quote credited to Sellen and Harper)³:

Because paper is a physical embodiment of information, actions performed in relation to paper are, to a large extent, made visible to one's colleagues. Reviewers sitting around a desk could tell whether a colleague was turning toward or away from a report; whether she was flicking through it or setting it aside. Contrast this with watching someone across a desk looking at a document on a laptop. What are they looking at? Where in the document are they? Are they really reading their e-mail? Knowing these things is important because they help a group coordinate its discussions and reach a shared understanding of what is being discussed.

³ Malcom Gladwell, “The Social Life of Paper,” The New Yorker, http://www.newyorker.com/archive/2002/03/25/020325crbo_books

After comparing the results of individuals who do not use MS Project to those who do, I discovered that 82% of the individuals do not regularly use Microsoft Project software. This is a significant percentage and it further emphasizes the point that the weaknesses of Microsoft Project outweigh the strengths. The results are shown in figure 2 (the data shown in table 2).

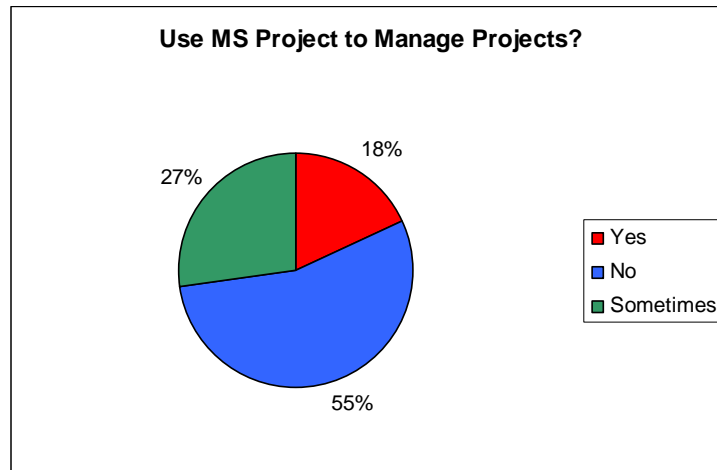


Figure 2

Further analyzing the responses of the individuals interviewed produces the results shown in figure 3 (data in table 3):

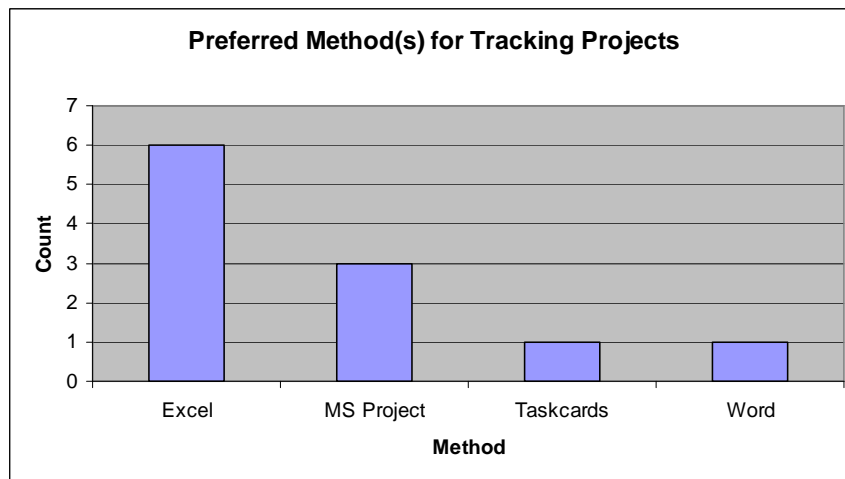


Figure 3

The majority of people surveyed use Microsoft Excel to manage and track projects. I believe this is due to the fact that Excel is flexible in organizing. Excel can be used as a spreadsheet, a schedule, a database or even a Gantt chart. This is the method my current organization, Hitachi, chooses to use. However, the drawback to using Excel as a Gantt chart is that if the schedule changes, it cannot be easily modified. Manipulation of the

schedule must be carried out by serious editing. Microsoft Project allows for easy project date manipulations.

Conclusion:

Due to the weaknesses of Microsoft Project, improving my company's project management organization and performance cannot be achieved simply by implementing project management software. The solution can be found in the failure of one of my organization's latest projects.

The project, a software archival system, had many technical issues and patch after patch was applied to the software. The software had two main functions, 1) job compare and 2) job archival and proliferation. In other words, if a job file was changed on one system, it should be changed on all systems. The user also had the ability to compare job files side-by-side in a text editor.

The customer was nearing the deadline for releasing the product to manufacturing when a major bug was found. The job compare feature did not function. This caused the project to come to a screeching halt and an emergency meeting was held. During the meeting, the project representative from my organization stated that Hitachi was under the impression that function two was the priority of the project. The customer emphasized that function one was actually the main reason for wanting the software. Needless to say, poor project planning and a lack of a project charter created this situation. Had a charter been created at the beginning of the project, the software would not have been created with different priorities.

To further understand the failure of this project, I researched why projects fail. The website, "Top Five Reasons Organizations Fail at Project Management" fell in line with my original solution of how to resolve my organization's project management problems. That is, implementing project management software would improve my organization's performance. The data and the website demonstrate that this clearly not the case, and is listed as a major reason why projects fail. The summarized list is as follows⁴:

5. Senior managers think that project management is a software tool.
4. Organizations don't value the upfront investment of time.
3. You may have been burned in the past.
2. Your organization is not committed.
1. Organizations don't know how to implement culture change.

By spending time in the planning phase and implementing a project charter, my organization will become more committed to the projects it takes on. While Microsoft Project may not be the solution to the overall problem, the advantages discussed in this paper can positively supplement a robust planning phase. By definition, a project must

⁴ Tom Mochal, "Top Five Reasons Organizations Fail at Project Management," builder.au, <http://www.builder.au.com.au/strategy/businessmanagement/soa/Top-five-reasons-organisations-fail-at-project-management/0.339028271.339272893.00.htm>

contain a define, plan, execute and close phase⁵. Hitachi must adhere to this definition to be more successful in managing projects.

Appendix:

Name	MS Project?	Preferred method	Field
Maurilio	No	Excel	PM
Dan	No	Excel	Software
Andy	No	N/A	Engineering
Pete	No	Task cards, Excel, Dry Erase	Software
Roger	No	Excel	Software
Brett	Sometimes	Excel, Word	Engineering
Arne	Sometimes	Excel	Engineering
Wayne	Yes	MS Project	PM
Scott	Yes	MS Project	Engineering
Brian	No	Excel	Engineering
Billy	Sometimes	MS Project	PM

Table 1

Use Project?	
Yes	2
No	6
Sometimes	3

Table 2

Preferred Method(s)	
Excel	6
MS Project	3
Task cards	1
Word	1

Table 3

Career Discipline	Total	# Who use MS Project
Project Management	3	2
Engineering	5	1
Software Development	2	0

Table 4

⁵ Verzuh, Eric. 2005. *The Fast Forward MBA in Project Management*. New Jersey: John Wiley & Sons, Inc.