PROJECT SUCCESS AND FAILURE:

WHAT IS SUCCESS, WHAT IS FAILURE, AND HOW CAN YOU IMPROVE YOUR ODDS FOR SUCCESS?

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We know why projects fail, we know how to prevent their failure – so why do they still fail?"(2)This statement could be applied to the recent Space Shuttle disaster, or the 2003 collapse of a large portion of the U.S. electrical grid. But the author was talking about Information Technology and Information System project failures, as they existed in 1994. Information Technology and Information System failures have been the topic of many articles, conferences, symposiums, studies, and research initiatives. The literature of the IT and IS community is rife with articles and commentary about project failures.   But just how bad is the situation? Do a large percent of projects really fail or do we only hear the bad news? What is failure and what is success? And lastly, what can you do to improve your success quotient? Let's start by looking at project failure rates and why projects fail.

There are many writers who tell us why projects fail. For instance, Field(12) tells us that "projects fail too often because the project scope was not fully appreciated and/or user needs not fully understood." Hulme(13) tells us that "MIS projects and associated procurements take place in an environment characterized by the following: Lack of management continuity and an incentive system that encourages overly optimistic estimates of the benefits that can be attained from doing the project." And Leicht(5) tells us that high user expectations can actually be the cause of project failure. Hoffman(15) tells that projects fail because of poor alignment between IT departments and business users. And in another article Hoffman(9) tells us that project managers too often act as "process cops and report compilers and loose sight of what they're supposed to be doing – to make sure projects are running effectively".   Hodgson(23) style='mso-bidi-font-weight:normal' tells us that "projects fail – that's the fact of life. Too many fail because the average project is like an iceberg – 9/10ths of it lay hidden from view". All of these writers are correct. But none of these authors are

reporting systematic research of the mechanisms that cause project success or failure.   And none of them provide insight into the rate of project failures.

How Often Do Projects Fail and How Can This be Measured?

In a 2003 article Julia King(10) reports, "At companies that aren't among the top 25% of technology users, three out of 10 IT projects fail on average. Translation: for these companies an amazing 30% of IT projects fail. Now if you are an extremely optimistic person you might conclude the good news is that 70% of these projects succeed. But note that King does not tell us how many of the 70% of the "successful" projects were over budget, over time, or defective in function upon completion. There are many ways to measure success and failure, but there is no strict dividing line between the two. Baker(20) concludes, "Like everything else, the definition of project failure is in a state of flux." And O'Brochta(18) tells us that "the big problem with assessing project success is that it is not precise."   O'Brochta continues, "This dynamic can often be the Achilles heal for a project. Without a dependable understanding of what constitutes success, the project is placed in the untenable position of being judged against differing criteria, and invariably becomes one more failure statistic reported by research firms such as Standish, Gartner, Forrester, and others."

And so, Lewis(7) tells us that "On average, about 70% of all IT-related projects fail to meet their objectives."   In this case Lewis includes not only projects that were abandoned (failed), but also those that were defectively completed due to cost overruns, time overruns, or did not provide all of the functionality that was originally promised. Amazingly, Lewis does not consider this 70% failure to meet objectives a serious issue, and compares it to the batting average of a major league player. Lewis contends major league coaches are happy with a 30% at-bat success rate for a player, and Lewis thinks the same standard should apply to IT projects. There seems to be only one problem with Lewis' outlook, and that is that the customer, the bill payer, may not share this sentiment.

There are other reports of project failure rates. A 1997 seminar paper(3) states that "In 1992 the Unites States General Accounting Office (GAO) reviewed Management Information Systems (MIS) projects and concluded: Developing and modernizing government information systems is a difficult and complex process. Again and again, projects have run into serious trouble, despite hard work by dedicated staff. They are developed late, fail to work as planned, and cost millions – even hundreds of millions – more than expected". In the same article we are told that research by the

Standish Group indicates only16.1 percent of all MIS projects are completed on time and within budget. Translation: 83.9 percent of projects fail either to some extent or fail completely. So this leads to several questions. Regardless of measurement semantics, why do projects fail? Is there one cause or are there many causes? If the overall failure rate is going to remain high, then how can you, the reader, become the exception to this rule of failure and achieve a much higher success rate for your projects?   Your career may well depend on it.

Let's look at the Standish Group's CHAOS Report(**1**) and see what it has to say. For the Standish Group not only published failure and success rates, but also pointed to indicators for success and failure. Their original report was done in 1994 and published as THE CHAOS Report. The Standish Group studied 365 companies with a total of 8,380 Information System applications under development. The resultant report divides projects into three distinct outcomes –which they called Resolutions.

Resolution Type 1 is a "**Project Success**" – it completed on time and budget, with all features and functions as specified. Only 16.2% of projects fell in this category.

Resolution Type 2 is "**Project Challenged**." These were completed, but were over cost, over time, and/or lacking all of the features and functions that were originally specified.   52.7% of all studied projects fell into this Resolution Type 2 (Challenged) category.

Resolution Type 3 is termed "**Project Impaired/Failed**." These projects were abandoned or cancelled at some point and thus became total losses. A disturbing 31.1% of all studied projects fell into this category.

For the purposes of this paper we will use the above three Standish Group measures of project outcome: A successful project must be on time, on budget, and deliver quality (features and functions) as promised. Anything less will be either a failed project or a challenged project.

The disturbing conclusion from this Standish report is that only 16.2% of projects were successful by all measures, and that of the 70% of projects that were not successful, Over 52 percent were partial failures and 31% were complete failures. This should certainly give project managers both food for thought and motivation to action.

So now that we have information about project success and failure rates, are there any significant differentiators found between successful and failed projects? According to the 1994 Standish CHAOS Report, there are.

The top 5 factors found in successful projects are:

1. User Involvement

2. Executive Management Support

3. Clear Statement of Requirements

4. Proper Planning

5. Realistic Expectations

These are the top 5 of 10 listed in the report. The report concludes that these were the elements that were most often pointed to as major contributors to project success. Will these elements alone guarantee success? Never. But if these are done well, a project, according to the Standish Group, will have a much higher probability of success.

The next category of differentiators from the Standish report deals with projects that proved to be "Challenged;" that is they were completed buy were over budget, over time, or did not contain all functions and features originally required.

The top 5 indicators found in "Challenged" projects are:

1. Lack of User Input

2. Incomplete Requirements & Specifications

3. Changing Requirements & Specifications

4. Lack of Executive Support

5. Technical Incompetence

And finally a list of all the top factors found in "Failed" projects

1. Incomplete Requirements

2. Lack of user involvement

3. Lack of Resources

4. Unrealistic Expectations

5. Lace of Executive Support

6. Changing Requirements & Specifications

7. Lack of Planning

8. Didn't Need it Any Longer

9. Lack of IT management

10. Technical Illiteracy

Notice in the above three project outcomes, user involvement is listed as the first or second item in each.

ANOTHER PERSPECTIVE TO SUCCESS AND FAILURE:

The results of a research paper(6), presented at a 1991 PMI symposium, found that "there are areas that should be emphasized by project managers who are committed to the success of their projects."   The research method used Content Analysis of showcase articles featured in *pmNETwork* and *Project Management Journal*. The researchers studied 24 areas of project management and found that 3 of the 24, if done well, clearly indicated that a project had a high probability of success. The paper states "it may be inferred that these three variables (Good Planning, Clear Responsibility and Accountability, and Schedule Control) in particular have the greatest impact on the performance of the project."   Do not, however, conclude that all of the other areas were then not important to project success.   The paper also tells us "the data suggests that many different variables are needed to accomplish a successful project. Let's look at the three key areas that, if done well, point to a successful project completion.

Good Planning

The first indicator, Good Planning, requires excellent forward planning, which includes detailed planning of the process implementation stages, task timeliness, fall-back positions, and re-planning. Notice that initial planning is not enough. Projects often take wrong turns, or initial solutions prove unfounded. The project manager who does not prepare to re-plan, or has not considered and planned fall-back positions when initial plans fail, will often find that the project first stalls, and then fails. We must remember that project management is not a straight-line process, but an iterative process that requires agile rethinking as the known environment changes before your eyes.

Clear Responsibility and Accountability of Team Members

This requires that all team members have a clear understanding of their roles and duties in the project. They must understand how expectations vs. achievements will be measured and graded. It is left to the project manager to properly implement the communication of these responsibilities, to provide feedback, and to assure all understand that for which they will be held accountable.

Schedule Control

This requires the continual monitoring and measurement of time, milestones, people, and equipment schedules. Properly done schedule control will also give the first hint that initial planning may not be going according to schedule. If you pickup on these hints, you have an opportunity to

implement a fallback position and/or re-plan to get back on track.

The same paper finds two attributes that appeared equally for projects that succeeded or failed. These two were: Use of Consultants, and Well Qualified Personnel. Equal numbers of successful and failed projects used consultants, and the same was true for well-qualified personnel. It is perhaps disappointing that these two attributes did not portend project success. Obviously there are many other variables that hold great weight in determining the ultimate outcome of an IT project.

Lastly this same study listed four things that foreshadowed a failed project. There were: Lack of Efficient Internal Communication Links, Lack of Efficient External Communication Links, Lack of Responsive Decision Making, and Lack of Effective Teamwork. These appeared most frequently in a negative context in failed projects.

So at this point we have several lists of things that might indicate project success and others that might indicate project failure. But there is one thing primarily that you must recognize in all of these lists. There are no stock answers, and there is no one list that will guarantee success. IT and IS projects are complex by nature, and each is unique. It is very difficult to plan with complete certainty something that has never before been done. Every single factor in all of these lists is important and must be considered for each project. The most difficult part may be prioritizing the factors. Which are most important? Which must be done first? Hopefully the lists will help you answer these questions. But in each case you must ultimately make the decisions based upon the unique circumstances of your immediate project.

COMMUNICATION

B. Elenbaas(17) tells us that "projects are about communication, communication, communication." In 1973 I was speaking with a gentleman who had recently retired from Monsanto Chemical Company. His career with Monsanto began back in 1933. As we spoke, the subject of communication entered our conversation and this fine gentleman related the following story: "In 1933 when I was brand new to Monsanto, my boss told me that the biggest problem at Monsanto was (the lack of) communication. And 40 years later when I retired, the biggest problem at Monsanto was still the lack of communication." This gentleman emphasized the fact that a lack of communication is very costly to a company. Sure, a company may still succeed, but without good internal and external communication I submit that the cost of success will be much higher than necessary. Another consequence is that success often takes much longer than necessary to

achieve. Sometimes success never arrives.

Lack of good communication can easily turns a corporate strategy, or an IS project, into a modern day Towel of Babel. Lavine(8) tells us that "The warring factions in Africa have a better chance of communicating with each other than many of the user and technology groups that 'work together' in today's project development environment." Lavine also relates that some years ago he was hired as a developer for a large bond-processing bank. He was told on his third day that the development team was no longer allowed to speak to anyone from the business community. It seems that relations between the two groups had become so bad that communication had come to a complete halt. In fact, negotiations had begun in an attempt to find an acceptable liaison to work between the two groups.   This may seem like an extreme example, but this happens in projects. Sometimes it if overt, but all too often it is on a subtle level. Subtle dysfunction is probably harder to correct because it is more difficult to pinpoint. You know something is wrong, but it's difficult to tell exactly what it is or to pinpoint the root cause of the problem. This often makes the problem intractable.

Kirksey (3) tells us that one predictor of project success is when communications are kept honest and open between customer and vendor. His major indicator of project failure in this area is when an IS project manager fails to correctly read warning signs that communication is breaking down. The result is a missed opportunity to correct the situation before it becomes too late.

Wixom(4) argues that User Participation and Team Skills are two of seven imperative implementation factors that determine project success or failure, and that these two are essentially communication skills. "User Participation occurs when users are assigned project roles and tasks, which lead to a better communication of their needs, and help ensure that the system is implemented successfully".   This is what Wixom(4) has to say about Team Skills: "People are important when implementing a system and can directly affect its success or failure. Team skills include both technical and interpersonal abilities". These interpersonal abilities include, without exception, interpersonal communication skills. Who do you know that communicates effectively? Watch them and determine why their communication is effective. Also watch those who do poorly at communicating, and make every effort to avoid their bad habits. There is one last point that involves communication and how it must be used to put user expectations into perspective. Hayes (11) provides additional insight by noting, "executives expect sales efforts and product development efforts to fail, but not IT projects. He also tells us that we must convince managers

that system development today is a gamble, but one the may have a big payoff. Hayes tells us that we must "market" our efforts and manage user expectations. If the user understands that there is risk, then "you'll have a better chance of delivering what the users expect." And if you want psychological insigits into people and projects, review Wastell's(16) insight into learning dysfunction and its association with project success or failure.

AVOID AT ALL COST

Here are a few things that should never happen to you but probably will at one point or another. If you ever hear yourself tell a client "No, you're wrong, that was never part of the scope! It's clearly a scope expansion!"(21), then you have violated one of the cardinal rules about controlling scope expansion. If you find yourself talking more than listening, then "stop talking"(22) "because the outcome of having your view prevail" may not ultimately be wise. Two or three heads are often better than one, so listen to the others – you might learn something. "If a project manager wants to fail, operate in a vacuum"(24). Operating in a vacuum, intentionally or not, is a sure way to make sure communication dies on your project. And lastly there is this favorite quote, "The Lone Ranger had Tonto, Yogi Bear had Boo-Boo, so why do some PMs run without adequate help"?(25) Think about this next time you don't want to share the load, perhaps because no one can do it better than you.

JIANG'S LIST

One concise literature study by Jiang, et al(19) produced a list of 13 success factors. Jiang's conclusion at the end of this study was that "the literature suggests that IS users and IS professionals are remarkably identical in their importance rankings of success factors. The similarity extends to comparisons across experience level and gender. The similarity across these demographic considerations allows a confidence in the rankings obtained. These rankings can thus be used as guidance in establishing policies and procedures." Here is the list that I will call Jiang's 13.

1. **Clearly defined goals** (including the general project philosophy or general mission of the project, as well as commitment to those goals on the part of the team members).

2. **Competent project manager**. The importance of initial selection of skilled (interpersonally, technically, and administratively) project leader.

3. **Top Management Support**. Top or divisional management support for the project that has been conveyed to all concerned parties.

4. **Competent project team members**. The importance of selecting and, if necessary, triaging project team members.

5. **Sufficient resource allocation**. These are Resources in the form of money, personnel, logistics, etc.

6. **Adequate communication channels**. Sufficient information is available on the project objectives, status, changes, organizational coordination, clients' needs, etc.

7. **Control Mechanisms**. (Including planning, schedules, etc.). Programs are in place to deal with initial plans and schedules.

8. **Feedback capabilities**. All parties concerned with the project area able to review project status, make suggestions, and corrections through formal feedback channels or review meetings.

9. **Responsiveness to client**. All potential users of the project are consulted with and kept up to date on project status. Further, clients receive assistance after the project has been successfully implemented.

10. **Client consultation**. The project team members share solicited input from all potential clients of the project. The project team members understand the needs of those who will use the systems.

11. **Technical tasks**. The technology that is being implemented works well. Experts, consultants, or other experienced project managers outside the project team have reviewed and critiqued the basic approach.

12. **Client Acceptance**. Potential clients have been contacted about the usefulness of the project. Adequate advanced preparation has been done to best determine how to sell the project to the clients.

13. **Trouble-shooting**. Project team members spend a part of each day looking for problems that have surfaced or are about to surface. Project team members are encouraged to take quick action on problems on their own initiative.

The Future is Getting Brighter Every Day

What does the future hold? According to Johnson**(14)** the success rate for projects has actually increased since the original Standish CHAOS report. Johnson attributes this increased

success rate to more project people using the Standish "Recipe for Success" that was established in 1998. Johnson tells us that the overall project success rate has increased from 16% in 1994 to 28% in 2000. What then are the top 5 factors that have caused this significant increase? According to Johnson's report the top 5 are:

1) Executive Support: This is now the No. 1 factor in project failure. Lack of executive support can and does jeopardize projects. Positive Executive support positively influences project outcome.

2) User Involvement: Lack of user involvement traditionally has been the No. 1 reason for project failures. Although it is now No. 2, its importance has not decreased.   Johnson feels that project professionals better handle and solve this major problem.

3) Experienced Project Manager: Johnson reports that ninety-seven percent of successful projects have an experienced project manager at the helm.

4) Clear Business Objectives: Better control of objectives is attributed to experienced project managers.

5) Minimized Scope: Do not allow your scope to grow. Johnson claims that minimized scope has replaced small milestones.

Conclusion

There are many things that lead to project success and many that lead to failure. Jiang's list of 13 is a good list to use as a starting point for your projects. But like any of the lists, it is not enough in and of itself. Good project management is a process of continuous improvement. It is a process of making mistakes and learning from those mistakes. It is a process of continuous study and learning. For those who cannot devote themselves to this never-ending process, there will be few successes.

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