

Troubled Project Recognition - Telltales (White Paper)

Completing projects on time and budget and delivering the outputs as per agreed requirements and quality are key contributors to an organisation's business success.

However there is a substantial risk that a project will NOT be completed on time or budget or not completed at all. Research by the Standish Group in the USA in 1995 on the performance of software development projects showed that a staggering 31% of projects will be cancelled before they even started and around 52% of projects will cost 189% of their initial estimates. Furthermore they found that the average time overrun is 222% of their original time estimates.

In order to keep projects on track and live up to the expectations, recognizing early signs of a project heading towards a failure is therefore an invaluable skill, contributing to the organisation's business success.

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Advalue Management Services Ltd is specialised in providing programme and project management consultancy and project recovery services in the ITC arena and has a track record of successful completion of programmes and projects concerning software development & implementation, ITC infrastructure, Business Process Redesign & Organisational Changes, PMO & ITIL implementation, and last but not least recovery of troubled projects.

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1. General Information

1.1 Intended Audience

The intended audience of this white paper are business owners, project sponsors, steering committee members, stakeholders and programme managers who are not involved in the day-to-day hands on project activities, but who have a vested interest in the project and who want to be able to pick up signals indicating a project is in troubles.

1.2 General Information

More often than not, signals indicating a project is heading towards a failure go unnoticed or if they are noticed, are ignored for a variety of reasons (see chapter 3 for more details).

On the surface such projects seem to be heading in the right direction as the status reports are indicating that progress is more or less as planned and issues, risks and quality are managed appropriately.

In talking with team members and reading the project documentation the intended audience of this white paper may pick up the signals and telltales of the project being in trouble and take appropriate corrective actions to avoid the project to fail.

1.3 Additional Information

The following books and/or articles provide deeper inside knowledge about the causes of troubled projects and possible corrective actions to reverse the outcomes of these projects.

Book or Article Title	ISBN #	Author/s
Project Rescue, avoiding a project management disaster	0-07-225537-4	Sanjiv Purba & Joseph J. Zucchero
Blueprint for project recovery	0-8144-0766-8	Ronald B. Cagle
Standish Chaos Report		Standish Group
Managing Successful Projects with PRINCE2	0-11-330946-5	OGC (Office of Government Commerce) UK

2. How to recognise a troubled project

The top-10 causes for projects to get into trouble as identified by the Standish Group are the following:

1. Lack of User input
2. Incomplete Requirements
3. Changing Requirements
4. Lack of Executive support
5. Technology incompetence
6. Lack of resources
7. Unrealistic expectations
8. Unclear objectives
9. Unclear time frames
10. New technology

Other causes are:

11. Lack of process and methodologies
12. Behaviour of individual team members
13. Insufficient attention to a valid business case
14. Lack of quality assurance and control

The following chapters will explore a number of easily recognisable symptoms which are early warning signs for a troubled project

2.1 User Input related symptoms

It is not uncommon for business analysts and solution designers to design applications, user interfaces and associated process workflows without substantial input from the business users. The commonly heard explanation is that they (designers and BA's) assume they know what is best for the user as they have extensive system and industry knowledge. They also may argue that involving users early in the process will slow down progress as the users usually don't know exactly what they want.

Making these assumptions is a recipe for serious problems. It is better to deal with users early in the process as it will be easier to modify the design to accommodate user needs in the design phase, instead of doing this late in the process after the solution has been build.

Lack of user involvement can easily be identified by:

- Missing tasks for meetings and JAD sessions with users in the project plan;
- No invites or minutes of meetings with users;
- Lack of sign off on design documentation by user representatives;
- Lack of knowledge with users about the functionality that will be delivered.

2.2 Incomplete Requirements related symptoms

Incomplete requirements can mean that essential requirements are missing or that existing requirements are too high level or ambiguous, leaving room for misunderstanding or misinterpretation of the requirements, leading to false expectations with the client about what will be delivered.

In almost all cases this will result in a solution being build that will not match the client's expectations and business needs. It also leads to a lot of scope change requests later in the project and discussions about who is going to pay for these. The ultimate result will be a dissatisfied client and loss of goodwill and reputation with that client.

Incompleteness of requirements can be identified by:

- Lack of detailed business requirements and functional specifications. A bullet pointed list of high level requirements will not be sufficient;
- Lack of predefined acceptance criteria, which will leave too much room for discussions about when a function will meet the requirements and will be accepted (and paid for) by the client.
- A lot of scope change requests. It is quite normal that the scope of the project will change during the project lifecycle due to changing business needs. However an excessive number of change requests are a strong indicator that requirements are ambiguous or missing.
- Lot of unknown factors. Accurate planning is impossible if a lot still needs to be determined or confirmed, especially for deliverables that are in the process of being build.
- Excessive quality problems and re-work. This may be an indication of lack of complete and detailed requirements and acceptance criteria.

2.3 Changing Requirements related symptoms

As indicated in the previous chapter, requirements will probably change during the project lifecycle. This can be considered as normal and should be catered for within the project by means of adequate change control and appropriate management of the triple constraints (scope, time, budget and quality). This means that if one constraint changes (e.g. scope or quality) one or more of the other constraints should also change.

Symptoms of poor change control and/or lack of process discipline are:

- Continuously changing requirements. If not anticipated at the start of the project and not catered for by means of the product development method (e.g. agile development in case of software development), this has a devastating impact on the project as it requires continuously re-planning and re-scheduling of the project. Furthermore this has a demotivating effect on team members because of the ever changing requirements and scope of the project.

2.4 Executive Support related symptoms

Without sufficient support by Executive Management a project is doomed to fail. On the other hand, too much involvement of Executive Management will kill initiatives and de-motivate the project team. Hence it is important to recognize symptoms indicating problems with executive support. The most common symptoms are:

- Lack of clarity on the why, what, when and how of the project. This result in a lack of focus on common purpose and objectives.
- Final decisions not being made by the Steering Committee. Clear ownership is missing or there is a lack of willingness to make a decision.
- Resources (people and money) are removed from the project and re-assigned to other projects. This is an indication that the project doesn't have the priority it deserves and the project will not have sufficient resources to complete the project on time or budget.
- Lack of regular Steering Committee meetings. This will lead to a discrepancy between actual project status and the expectations of executive management about progress.
- Overactive Steering Committee members. This is undermining the authority of the project manager and will lead to de-motivation of the project team because they feel not trusted and not allowed to take responsibility for their work.

2.5 Technology related symptoms

The impact of technology issues is often underestimated and in many cases only discovered at the end of the project if everything is put together and put to the test. Symptoms for this type of problems are:

- Problems with interfacing between different types of technology solutions. In a lot of cases this will only be discovered in the test phase after the solutions have been built. More often than not this results in a redesign of one or more of the solutions to resolve the interfacing problem. Ultimately this will impact negatively on the timeline and the budget.
- Quality problems. This may be an indication of unsuitable production tools which will prevent the products to meet the design and quality criteria.
- Unavailability of required technology. This will lead to a delay in production, testing and/or deployment and need to be addressed as soon as possible.

2.6 Resource related symptoms

One would expect that once a project has been approved, the project will be adequately resourced (in terms of budget, people and tools) in order to meet it's objectives within the given timeframe. The truth is that a lot of

projects are under resourced right from the start and consequently are heading towards a failure.

Symptoms for this type of problems are:

- Unjustified budgets. The project is trying to deliver within a budget that has been allocated without justification (we will have a moon mission in 2 years time on a \$2M budget - yeah....right!).
- Resources are shared between multiple projects. Without stringent agreements about when resources will be working on the project (what days and on which hours) this may lead to a lot of problems with meeting deadlines.

2.7 Expectations related symptoms

Although expectation related problems will probably not impact on the ability to deliver on time and budget, it can cause major problems with the project's credibility and issues with the client's satisfaction and acceptance of the end product. It is therefore important to regularly check shareholder expectation against actual deliverables.

Main symptoms of this problem are:

- Expectations are raised without any justification or backing by approved and signed off project documentation.
- Incorrect assumptions. Check assumptions against facts, requirements and project plans. Implicit and explicit assumptions that proved to be wrong can cause major credibility problems.

2.8 Unclear Objectives related symptoms

It will be very hard for a project team to deliver a project according to plan and budget if the objectives and available resources are unclear, ambiguous or not communicated sufficiently with the project organisation.

Symptoms for problems in this area are:

- Lack of approved and signed off project charter in which the business objectives, project objectives, critical success factors and high level resources and timelines are defined.
- Vendors and 3rd party suppliers seem to be pushing their own metrics, solution or agenda. This indicates other interests than the project and requires immediate corrective action in order to align the vendor's priority with the project objectives.
- Changing objectives. If this occurs the project should be stopped and closed. A new project should be started that satisfies the new objectives.

- Lack of knowledge with the project team members or stakeholders about the objectives of the project. This indicates that even if there are clearly defined objectives, they are not clearly communicated with the rest of the organisation.

2.9 Timeframe related symptoms

Timeframe related problems should be easy to identify in the project schedule (i.e. the Gantt chart), the integrated project plan and the weekly project status reports. Also talking with team members may reveal problems in this area.

Telltales for timeframe related problems are:

- Timelines are based on best case scenarios. This may indicate misplaced optimism as there is no contingency for things to go wrong (which will certainly happen). Double check by asking to see the estimations on which the planning is based.
- Lack of dependencies in the planning. This again indicates misplaced optimism and parallel thinking, assuming that all work can be done in parallel.
- Top down estimation. Wishful thinking or other pressure (e.g. by executive management) are driving the timelines instead of timeframes based on available resources, tasks to perform and objectives to achieve (we will have a moon mission in 2 years time on a \$2M budget - yeah...right!).
- Due dates and interim milestones are not defined. This indicates there are no plans and/or schedules drafted. Basically this means the deliverables and associated tasks are not defined and work packages not drafted. This is bad management practice which will lead to a major disaster.
- Due dates are missed. Check if good and compelling reasons are articulated and if yes, check if the ripple effects on the timeframe and budget have been made visible and approved.
- A lot of tasks started ahead of schedule but completed behind schedule or stuck on approx 80%-90% completion. This is indicating a lack of clarity on requirements or design. People are stuck with a certain task and will start another task to keep going, while waiting for more clarity on the other task. At first it may look as if the project is ahead of schedule (because tasks started ahead of schedule), but in fact the project is behind schedule and status of the work cannot be established.

2.10 New Technology related symptoms

Using or introducing new technology increases the risk of problems substantially. There may be connectivity problems with other solutions, or the technology can not satisfy requirements or quality criteria. Such potential problems must be detected early as they will cause major

problems if discovered in the testing phase towards the end of the project.

Symptoms that may point to technology troubles are:

- Lack of proof of concept or prototype. When using new technology it is best to build a prototype early in the design phase to proof that the concept is meeting the requirements.
- Lack of benchmarking. Even if there is a prototype which is working fine with only a few users and/or transactions, the technology may still not satisfy requirements with a lot of users connected and a large number of transactions to be processed. Stress and performance testing early in the project should prove the technology can handle the required amount of users and transactions.

2.11 Process related symptoms

Projects may end up in troubles if the project organisation has not put in place a project management methodology that suits the type of project or if the organisation is not following the methodology put in place.

Symptoms indicating problems in this area are:

- No problems or issues being reported. If no or only few issues are reported there is good reason for worries. Does the team have a handle on the true requirements? Are they afraid to report issues? Is there a process in place to deal with issues and problems?
- Poor communications. Good communication is a major contributor to successful projects.
- Excessive quality problems. This may indicate a lack of quality assurance and/or poor testing procedures.
- Team members are performing tasks their way. This may point to unwillingness to follow the agreed processes or not understanding how the project needs to deliver.
- Incomplete planning. It will be difficult to monitor progress against planning if the latter is incomplete. It will also have an impact on the timeframe as unplanned work need to be added to the scope of the project.
- No progress reporting against planning and budget. Monitoring and reporting progress without validation against the planning is meaningless and may result in unpleasant surprises towards the planned completion of the project.
- Inappropriate production methodology. The chosen production lifecycle should be appropriate for the type of project. For instance, in a fast changing business environment an agile development methodology such as XP (extreme programming) may be best, while in a stable environment a SDLC methodology may be most suitable.

2.12 Team related symptoms

The collective behavior of the project team or the behavior of individual team members have a major impact on how the project will perform. Problems in this area need to be recognized as early as possible and addressed immediately.

Common symptoms of problems within the team are:

- Interpersonal problems. This may point towards a lack of team spirit or that personal needs are sacrificed for the project. In almost all cases this result in attempts of team members trying to leave the project.
- Politics. Personal and departmental agendas are taking precedence over the project objectives. This may result in delaying or even sabotaging tactics (e.g. not committing to agreed timelines, putting everything up for discussion, demand of ever more additional information in order to start a task or make a decision, etc.).
- Mismatch of needs. The personal objectives and needs of individual team members are not matching the project's objectives and needs (e.g. a team member would like to become a .NET expert but is required to work with VB6 on the project).
- Lack of needed skills or experience. There is a mismatch between the skills and experience within the team and the needs of the project.

2.13 Business Case related symptoms

The business case is a description of the reasons for the project and a justification for undertaking the project, based on the estimated costs, risks and expected business benefits and savings. It is the most important set of information of the project as it drives the decision making process.

Lack of a business case or insufficient attention to the business case may result in working on a project that does not contribute to the organisations business objectives, hence wasting costs and effort.

Symptoms indicating lack of attention to the business case are easily to observe:

- Lack of signed off business case. This may indicate the project is started by an individual (or group) within the organisation with a vested interest in the project. This does not necessarily mean the project will contribute to the organisations overall business objectives.
- Business case is not regularly validated and updated. Projects are not executed in isolation and a changing business environment or changes to the project will probably change the expected benefits of the project to the organisation.

2.14 Quality related symptoms

There is no single definition of the term quality within projects. According to the PMBoK the quality of a project basically comes down to “delivering the goods and services as promised (meeting requirements on time, within budget), nothing more or nothing less”. According to PRINCE2 quality is a question of identifying what it is about the projects products or services that make them fit for their purpose of satisfying stated needs.

This means that the products or services to be delivered by the project must meet the predefined quality criteria (e.g. shape, form, availability, performance, expected lifespan, etc.), to be delivered within the agreed timeframe and against agreed costs.

Quality does not come on its own; it must be planned for in advance and monitored at regular intervals during the execution phase of the projects.

Lack of quality will impact heavily (in a negative way) on the project performance and on the willingness from the customer to accept the final products.

Symptoms indicating a lack of quality assurance and control are:

- Lack of a Project Quality Management Plan. The purpose of this plan is to describe the approach with regard to quality planning, execution and monitoring. Without such plan it is almost certain that there is no common understanding within the project organisation of how to achieve quality.
- Lack of or poorly defined quality criteria. Without detailed quality criteria it will be almost impossible to determine whether a deliverable is fit for purpose and acceptable for the customer.
- Excessive amount of rework. This is an indication that requirements are ambiguous or not clear. The consequence is an increase in time and costs leading to a delay in the completion of the project.
- Lack of quality deliverables (e.g. configuration management plan, test strategy) or quality activities in the project schedule (e.g. quality reviews, inspections).
- Lack of detailed quality plans for each deliverable. Such plan describes how, when, by whom a product will be tested against its quality criteria. It also describes how acceptance will be notified.

3. Denial of Project Failure

Despite all the early signs of a project getting into trouble, it is usually not the project team that is raising the alarm bell and take necessary corrective actions. Surprisingly, in a lot of cases it is the client demanding actions to turn things for the better. Usually this happens near the planned end of the project when the expected outcomes are not delivered as planned or when the deliverables are lacking the expected quality.

There are a number of suppressing factors that prevent the warning signs to be picked up and corrective actions being taken.

3.1 Suppression Factors

The most common suppression factors are:

- Denial of the reality or unwillingness to admit wrong. The team simply refuses to accept that the project is in trouble.
- Fear of being blamed. Team members keep silent about problems and issues because they fear punishment.
- Fear of looking foolish. Team members hesitate to raise the alarm bell as they fear looking foolish if proved nothing is wrong.
- Lack of involvement. There is an unwillingness to invest the effort to turn things around.
- Negative incentives. Team members fear for missing a bonus for good performance or a penalty for poor performance.
- Lack of accountability. Team members don't feel accountable for the quality of their work and tend to end the project in such a way that it becomes someone else's problem.
- Self fulfilling prophecies. The team strongly believes in the infeasibility of the objectives, the approach followed and/or the methodologies used. This leads to de-motivation, lack of buy-in and ownership and ultimately in reduced efforts.
- In-house build syndrome. There is a strong belief within the project team that all components must be build in-house and that everything build somewhere else is of lesser quality. In projects where components are build by 3rd parties this belief may result in de-motivation, lack of buy-in and ownership and ultimately in reduced efforts.

4. Causes & Remedial Actions

This white paper is only touching on the symptoms indicating a troubled project and does not cover the underlying causes and associated mitigating actions.

The latter are explained in more detail in the "Advalue White Paper - Causes Troubled Projects".

Please contact Advalue Management Services Ltd to obtain a copy of this white paper, or visit our website www.advalueservices.com.