

The Standish Group

The Standish Group International, Inc., is a market research and advisory firm specializing in mission-critical software and electronic commerce. Its products include a continuous information service based on up-to-date market analysis; VirtualADVISOR, an expert solutions service whose subscribers enjoy unlimited project management inquiry privileges; and CHAOS University, an annual retreat in which high-level (Information Technology) IT executives come together to share their experiences and find solutions to common problems. The Standish Group provides critical information and active solutions to project managers, application development managers, and IT executives concerned with developing and implementing business solutions. This advisory service is based on in-depth primary research supported by a rigorous process improvement cycle. Constant process improvement, coupled with a formal feedback system, ensures the latest in advanced thinking.

Their website is www.standishgroup.com

The Standish Group's **Quarterly Research Reports** are a summary of our research programs. Collected over the calendar year is data from DARTS (Demand Assessment Requirements Tracking Survey), Monthly CENTS, CHAOS Research, and Focus Groups. Up to date information that focuses on issues and trends in the IT community is organized and accentuated with full-color charts and graphs. These reports are also a feature of our [SMART \(Standish Management Advisory Research Triangle\) Program](#)'s "Active Research" in conjunction with [Monthly DARTS](#) and the [VirtualBEACON™](#) (a weekly electronic newsletter).

The Standish Group on Project Management

The Standish Group focuses on IT investment planning. When companies invest in IT development projects they want a return for their investment. The Standish Group has investigated IT projects and through its CHAOS research they have made a few conclusions.

Highlights of The CHAOS Report (1994)

" In 1986, Alfred Spector, president of Transarc Corporation, co-authored a paper comparing bridge building to software development. The premise: Bridges are normally built on time, on budget, and do not fall down. On the other hand, software never comes in on time or on budget. In addition, it always breaks down. (Nevertheless, bridge building did not always have such a stellar record. Many bridge building projects overshot their estimates, time frames, and some even fell down.)

One of the biggest reasons bridges come in on time, on budget and do not fall down is because of the extreme detail of design. The design is frozen and the contractor has little flexibility in changing the specifications. However, in today's fast moving business environment, a frozen design does not accommodate changes in the business practices. Therefore a more flexible model must be used. This could be and has been used as a rationale for development failure.

But there is another difference between software failures and bridge failures, beside 3,000 years of experience. When a bridge falls down, it is investigated and a report is written on the cause of the failure. This is not so in the computer industry where failures are covered up, ignored, and/or rationalized. As a result, we keep making the same mistakes over and over again. "

Additional Facts:

Results indicate 52.7% of projects will cost 189% of their original estimates.

The lost opportunity costs are not measurable, but could easily be in the trillions of dollars. In 1995 American companies and government agencies will spend \$81 billion for canceled software

projects. These same organizations will pay an additional \$59 billion for software projects that will be completed, but will exceed their original time estimates.

Only 9% of their projects come in on time and on budget. And, even when these projects are completed, many are no more than a mere shadow of their original specification requirements. Projects completed by the largest American companies have only approximately 42% of the originally proposed features and functions.

Restarts

One of the major causes of both cost and time overruns is restarts. For every 100 projects that start, there are 94 restarts.

Cost Overruns

The average across all companies is 189% of the original cost estimate. The average cost overrun is 178% for large companies, 182% for medium companies, and 214% for small companies.

Time Overruns

The average overrun is 222% of the original time estimate. For large companies, the average is 230%; for medium companies, the average is 202%; and for small companies, the average is 239%.

Content Deficiencies

For challenged projects, more than a quarter were completed with only 25% to 49% of originally-specified features and functions. On average, only 61% of originally specified features and functions were available on these projects. Large companies have the worst record with only 42% of the features and functions in the end product. For medium companies, the percentage is 65%. And for small companies, the percentage is 74%.

Success/Failure Profiles

The most important aspect of the research is discovering why projects fail. To do this, The Standish Group surveyed IT executive managers for their opinions about why projects succeed. The three major reasons that a project will succeed are user involvement, executive management support, and a clear statement of requirements.

"Probably 90% of application project failure is due to politics!"

Case Study:

Success Criteria	Points	CA-DMV	AMERICAN	HYATT	ITAMARATI
1. User Involvement	19	NO (0)	NO (0)	YES (19)	YES (19)
2. Executive Management Support	16	NO (0)	YES (16)	YES (16)	YES (16)
3. Clear Statement of Requirements	15	NO (0)	NO (0)	YES (15)	NO (0)
4. Proper Planning	11	NO (0)	NO (0)	YES (11)	YES (11)
5. Realistic Expectations	10	YES (10)	YES (10)	YES (10)	YES (10)
6. Smaller Project Milestones	9	NO (0)	NO (0)	YES (9)	YES (9)

7. Competent Staff	8	NO (0)	NO (0)	YES (8)	YES (8)
8. Ownership	6	NO (0)	NO (0)	YES (6)	YES (6)
9. Clear Vision & Objectives	3	NO (0)	NO (0)	YES (3)	YES (3)
10. Hard-Working, Focused Staff	3	NO (0)	YES (3)	YES (3)	YES (3)
TOTAL	100	10	29	100	85

California DMV Failure - The project had no monetary payback, was not supported by executive management, had no user involvement, had poor planning, poor design specifications and unclear objectives. It also did not have the support of the state's information management staff.

American Airlines Failure - This project failed because there were too many cooks and the soup spoiled. Executive management not only supported the project, they were active project managers. Of course, for a project this size to fail, it must have had many flaws. Other major causes included an incomplete statement of requirements, lack of user involvement, and constant changing of requirements and specifications.

Hyatt Hotels Success - Hyatt had all the right ingredients for success: user involvement, executive management support, a clear statement of requirements, proper planning, and small project milestones.

Banco Itamarati Success - First, they had a clear vision with documented specific objectives. Second, their top-down level of involvement allowed Banco Itamarati to stay on course. And finally, the bank produced incremental, measurable results throughout the planning/implementation period.

For more information about project planning and The CHAOS research, see the following website http://www.standishgroup.com/sample_research/index.php

Unfinished Voyages A Follow-Up to The CHAOS Report

Achieving the answers to solving project failure often lies in developing written communication such as problem statements, project plans, and detail specifications. However, one of the problems with any written communication is the participant's (reader's) level of understanding. As technologists, we think, write, and talk in a manner that is not readily grasped by many people outside our industry. Aside from sounding intimidating, you run the danger of the reader actually thinking they understand what you are saying, while your meaning may in fact be entirely different. To paraphrase the words of the English poet, Samuel Taylor Coleridge "Until you understand a reader's ignorance, presume yourself ignorant of his understanding". In other words, write the document devoid of all technical terms and pseudo technical terms. This includes words used by our industry, but rarely used outside our industry. Words like paradigm, metric, abstraction, and orthogonal, should not be used in any document if you want the normal reader to understand. Remember it is your job to make the reader understand the plan. It is not your job to show how smart you are or to demonstrate that you can use big words.

Project Success Criteria Table

SUCCESS CRITERIA	POINTS
1. User Involvement	19
2. Executive Management Support	16
3. Clear Statement of Requirements	15
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5. Realistic Expectations	10

6. Smaller Project Milestones	9
7. Competent Staff	8
8. Ownership	6
9. Clear Vision & Objectives	3
10. Hard-Working, Focused Staff	3
TOTAL	100

Benefits of Formal Project Management

- Provides a realistic picture of the project and the required resources
 - User involvement
 - Management support
 - Clear business objectives
 - Experienced project manager
 - Small milestones
 - Firm business requirements
 - Competent staff
 - Proper planning
 - Ownership
 - Other
- Defines and assigns the resources, which leads to worker success and job satisfaction
- Creates small manageable goals which leads to project predictability and increases project success
- Identifies and manages dependencies, contingencies, and risk which reduces project failure
- Failed projects end quicker therefore reduces costs and frees up resources
- Provides a reporting a communication process