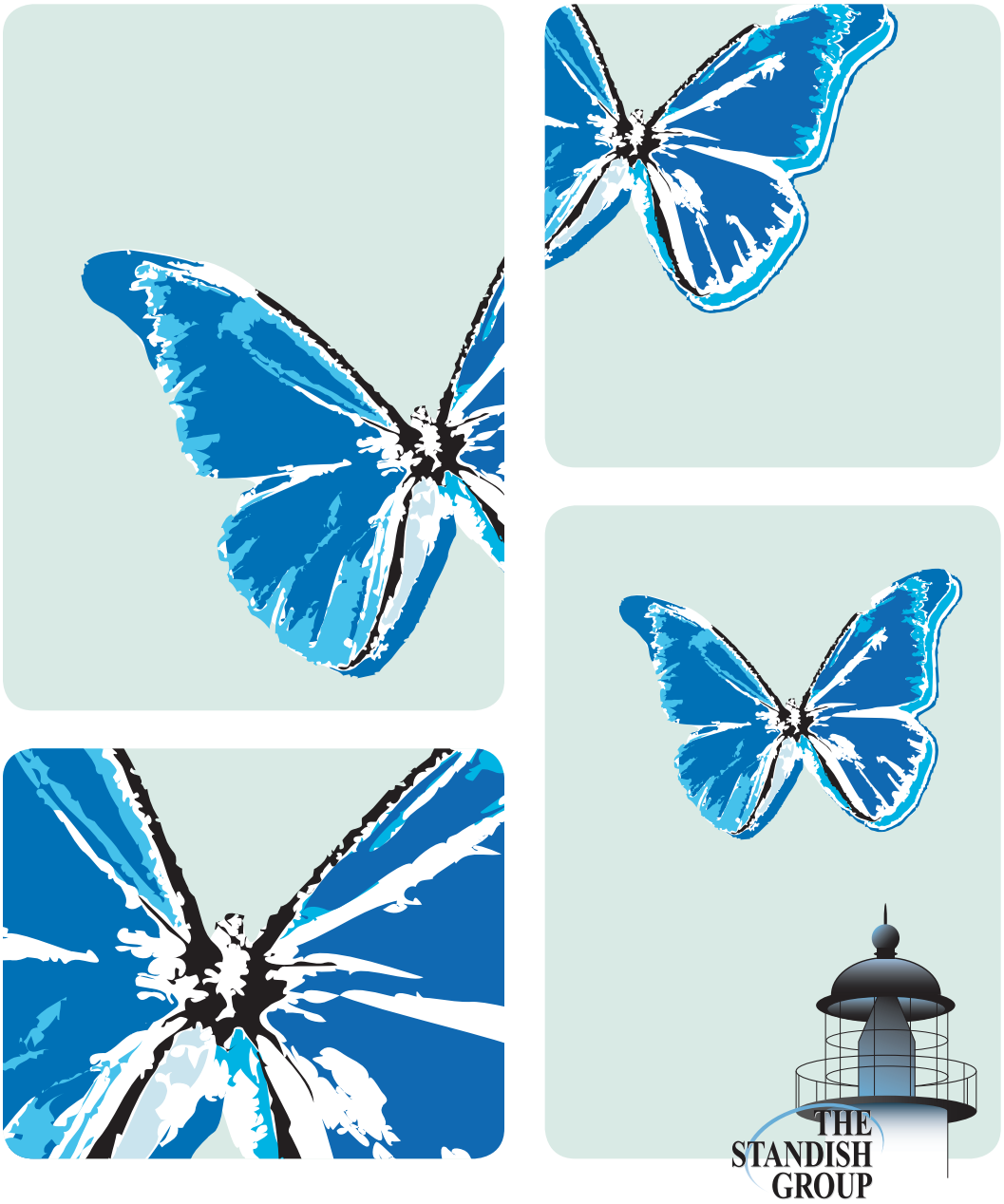

THE STANDISH GROUP

CHAOS MANIFESTO

The Laws of CHAOS and the CHAOS 100 Best PM Practices

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PREFACE

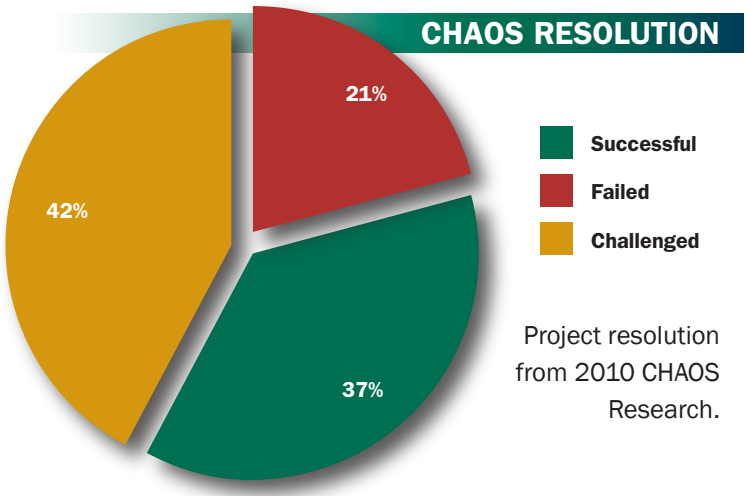
The Chaos Manifesto is a subset of the online version of the CHAOS Chronicles; known as the CHAOS Knowledge Center (CKC). The CHAOS Manifesto is based on the CKC version 30.0.0. The online CHAOS Chronicles contains 100 Best Practice Points. CHAOS Chronicles is a work in process and new research is added and updated every month along with other supporting features. Currently there are over 600 charts in the CKC. This report is broken into 12 main sections. Sections 2 to 11 cover the 2011 CHAOS Success Factors.

The Chaos Manifesto is based on the collection of project case information on real-life IT environments and software projects. Eight different instruments were used in the collection of this information, which includes project profiles, project tracking, individual project surveys, case interviews, general surveys, project post-mortem, and other instruments. CHAOS Research encompasses 16 years of data on why projects succeed or fail, representing more than 80,000 completed IT projects. Through Standish Group's CHAOS University, we have hosted over 500 workshops, as well as many focus groups, project "group therapy" sessions, and executive retreats that focus on particular issues of project management.

CHAOS DEMOGRAPHICS: CHAOS results provide a global view of project statistics but do tend to have a heavier concentration on the United States and Europe. For each study period, about 60% of projects are U.S. based, 25% are European, and the remaining 15% represent the rest of the world. Half of the companies are considered Fortune 1000-type companies; another 30% would be considered midrange; and 20% are in the small-range category. They span a diverse number of vertical industries and organizations. Participants were made up of a variety of CIOs, VPs, directors, and PMO project managers.

INTRODUCTION

The 2010 CHAOS results show a major increase in project success rates, with 37% of all projects succeeding (delivered on time, on budget, with required features and functions); 42% were challenged (late, over budget, and/or with less than the required features and functions); and 21% failed (cancelled prior to completion or delivered and never used). These numbers represent an uptick in the success rates from the previous study, as well as a decrease in the number of failures. The low point in the last five study periods was 2004, in which only 29% of the projects were successful. This year's results represent the highest success rate in the history of the CHAOS Research. The reasons for the increase in success rate are:



Project resolution from 2010 CHAOS Research.

Agile Process: In 2002, agile projects made up less than 2% of overall projects and less than 5% of new application development projects. Today, agile projects account for almost 9% of all projects and 29% of new application development projects, for a 22% CAGR. The increase in project success rates can directly tie back to projects resolved through the agile process.

Modernization: These projects have grown steadily. While not as dramatic in growth as agile projects, modernization projects that focus on recovery and code/database conversion have an even better success rate than their agile counterparts. The reason modernization projects have greater success is they are mechanical and rely less on gnarly ecological or project ecosystem skills.

Enterprise Packages: These types of projects have declined in the last reporting period of 2009 to 2010. Large enterprise packages like ERP or CRM are high risk and have a poor resolution. The fact that there are fewer of them caused the overall success rate to go up.

Waterfall: These types of projects once represented almost half of new application development projects. During the last 10 years their numbers have declined, with a CAGR of 1%. This reduction has been a major contributor to the overall success rate of projects.

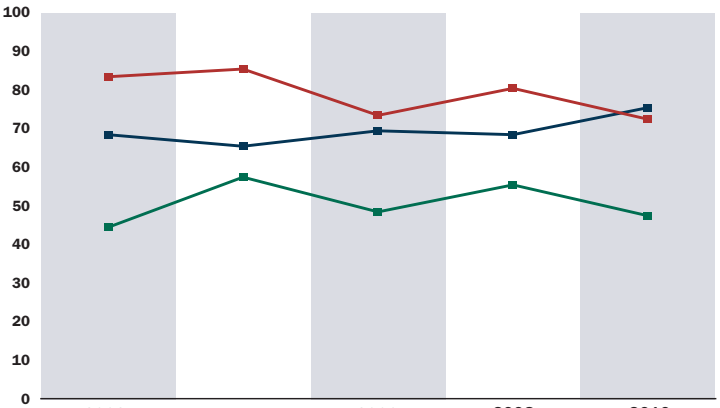
RESOLUTION

	2002	2004	2006	2008	2010
Successful	34%	29%	35%	32%	37%
Challenged	51%	53%	46%	44%	42%
Failed	15%	18%	19%	24%	21%

Project resolution results from CHAOS Research for years 2002 to 2010.

OVERRUNS AND FEATURES

Time and cost overruns, plus percentage of features delivered from CHAOS Research for the years 2002 to 2010.



	2002	2004	2006	2008	2010
Time	82%	84%	72%	79%	71%
Cost	43%	56%	47%	54%	46%
Features	67%	64%	68%	67%	74%

This year's figures show a substantial decrease in both cost and time overruns. Cost overruns decreased from 54% in 2008 to 46% in 2010. Time overruns also have gone down, from 79% in 2008 to 71% in 2010. The high point in time overruns was 2004 (84%). Features and functions developed had stayed fairly steady, with 67% of specified requirements in 2008. In 2010, the percentage went up to 74%. The agile process is delivering not only a higher percentage of features driving up the average, but also a higher percentage of higher usage of those features. Still, there is much need for improvement.

Areas The Standish Group has identified for improvement are:

Executive Sponsorship: Improvement here is the single most important area that will increase project success. Sixty-six percent of executive sponsors do a poor job and shirk their responsibilities. However, it is not their fault because no one has educated them about their roles and responsibilities. The Standish Group has identified the 50 skills needed to be a good executive sponsor and has the ability to test executive sponsors on their skills.

Decision-making: Is the single biggest reason for increased cost and time for projects. The average project has 1.5 decisions for every thousand dollars in cost. Decreasing latency will increase project success and decrease overruns. In order to reduce latency the organization needs to adopt a decision pipeline process. The Standish Group has built a decision pipeline tool to decrease decision latency.

Compliance and Governance: Causes increased cost and time. It is the overhead burden that must be managed, for too much is not a good thing. Transparency is one of the major benefits of compliance and governance. Such transparency has reduced the number of risky projects from starting in the first place, and helped to kill bad projects earlier in the cycle.

Optimization: Focusing on the true user requirements will increase both project success and user satisfaction. The increase of single-function applications used on mobile devices is another major contributor to the increased success rate. The Standish Group has also built an optimization tool to help organizations focus on the most important requirements.

SIZE-COMPLEXITY MATRIX

The Size-Complexity Matrix provides a guideline for categorizing a project in order to assess the risk and effort. The Size-Complexity Matrix can be used to decide if an executive sponsor can take on the project or an additional project. It can be used to determine the workload of the project manager or to alert management as to the risk of a project or portfolio of projects. The Size-Complexity Matrix uses a 5-point scale for both size and complexity. The lowest-point project is a simple, small project and would be represented as a C1S1 and have 100 points. The largest and most complex project would be a C5S5 and have 1,000 points.

The size is a selection that has two tables. The top table uses labor cost. Standish only uses labor content to measure size, therefore when selecting the project size in the table use normal United States labor rates. The bottom table uses team size. The user can take the average of both tables or select the highest or lowest table. Remember these are guidelines, not rules.

The complexity is an addition function. The user adds up the points based on the attributes of the project. There are five attributes in each table. The user can use the average of both tables or select the highest or lowest table. Complexity can add up to more than 5 points, but it defaults back to 5 as the maximum complexity. Once you have calculated the size and complexity, the Size-Complexity Matrix can be used to assign work, risk, or even to move forward with the project.

Size	Select Points
Under $1 million labor	1
$1 million to $3 million	2
$3 million to $6 million	3
$6 million to $10 million	4
Over $10 million	5
6 or fewer team members/ months	1
6 to 12 team members/months	2
12 to 24 team members/months	3
24 to 50 team members/months	4
Over 50 team members/months	5

Complexity	Add Points
Base	1
Breaking new ground	1
Fuzzy undefined requirements	1
Multiple team locations	1
Multiple stakeholder locations	1
Base	1
Breaking new ground	1
Diverse user objectives	1
Uncooperative peers	2
Uncooperative stakeholders	3

		COMPLEXITY				
		C1	C2	C3	C4	C5
SIZE	S1	100	250	400	550	700
	S2	175	325	475	625	775
	S3	250	400	550	700	850
	S4	325	475	625	775	625
	S5	400	550	700	850	1000

FACTORS OF SUCCESS

User Involvement

CHAOS Research clearly shows that projects that lack user involvement perform poorly. User participation has a major effect on project resolution; in fact, we give it 20% of our success points.

Executive Management Support

The most important person in the project is the executive sponsor. The executive sponsor is ultimately responsible for the success and failure of the project. We give executive sponsorship 15 success points.

Clear Business Objectives

The most important ingredient in the project is the business objective. The project must align the organization's goals and strategy, which is why it also has 15 of the success points.

Emotional Maturity

Covers the emotional state of the project environment. Projects get resolved within the ecosystem; a healthy ecosystem produces more successful projects. Emotional maturity accounts for 12 success points.

Optimization

The biggest thing an organization can do is maximize efficiency by making all aspects of the project optimal. This includes scope, team size, sponsorship, and process. Optimization gets 11 success points.

Agile Process

The first of the mechanical success factors. The agile process directly addresses user involvement, executive support, and the other three ecological success factors. We give it 11 success points.

Project Management Expertise

Is essential to controlling the progression of the project and the collaboration of the stakeholders and team members. Project management expertise accounts for 6 success points out of 100.

Skilled Resources

In the eighth position and with only 5 success points, it may seem that skilled resources gets no respect, but that is not true. A project is made up of people, and success is on their shoulders.

Execution

The process and governance controls. If done right they can help with success, but all too often organizations put too much reliance on them and lose sight of the goal. We give execution 3 points.

Tools and Infrastructure

They can help a project succeed, but like any tool they can also hurt. Organizations must be extremely careful not to rely too much on tools for a project's success. We give this factor only 2 points. "A fool with a tool is still a fool."

Factors of Success	Points
User involvement	20
Executive management support	15
Clear business objectives	15
Emotional maturity	12
Optimization	11
Agile process	11
Project management expertise	6
Skilled resources	5
Execution	3
Tools and infrastructure	2

The first five success factors focus on the ecological skills, which are the hardest areas to master, but provide the greatest benefit for success. The first three success factors account for 50% of the points while all five account for 73%. The last five success factors focus on the mechanical skills, which are the easiest areas to master, but provide the least benefit for success, with a total of 27 points out of 100. The Standish Group further breaks down the success factors into points and assigns fractions of the scores to each of these points. The following outlines the CHAOS 100 best practices.

LESSON ONE: User Involvement

Lack of user involvement is the number one reason for project failure. Conversely, user involvement is the number one contributor to project success. Even when delivered on time and on budget, a project can fail if it does not meet the users' needs or expectations, or if the user community does not embrace the finished product. Throughout the life of The Standish Group's research efforts, much time has been spent trying to understand how to work better with the user community. Based on our research, our attempt was to understand what user facilities, procedures, characteristics, and skills could be brought to bear that would lead to project success.

The organization's project management environment needs to cultivate an ecosystem for users and user groups that enables them to explain the business process in detail to the IT organization, and those users should be trained to follow project management protocols. Successful projects include business-knowledgeable users with good communication skills. Challenged and failed projects typically include users with fair to poor communication skills. Of all the attributes of a project, realism, or the lack thereof, produces the starkest contrast in outcomes. Users must be aware of the limitations that are imposed on the project. Users and user groups that are involved and realistic have higher success rates; they have an inclination toward pragmatism, which in turn can minimize project risk.

A project team that is tuned into the users' needs and can understand their real problems has a major positive effect on a successful outcome. However, our research indicates that as a group, project managers have only moderate skills to manage users and their expectations. In addition, executive sponsors also lack the skills to understand the users and encourage their participation. One of the biggest weaknesses of the project team is failure to create and maintain a platform for clear communications. Such a platform could go a long way toward improving an organization's project resolutions.

THE LAW OF THE TWO FACES:
Users are both your best friend and worst enemy.

	Major Effect	Medium Effect	Minor Effect
Project management leadership	71%	22%	7%
Executive sponsor participation	45%	40%	15%
Technical expertise	52%	48%	0%
User participation	84%	12%	4%
Vendor support	35%	39%	26%

USER EFFECT

The table shows the results of the question to IT executives, "For your organization, in new application package implementations what effect do the following activities/skills have on success?"

10 CHAOS SUCCESS POINTS FOR USER INVOLVEMENT

POINT 1: Identification

For any project to succeed, it is crucial to first correctly identify the proper user. The Standish Group believes finding and engaging the right user in the project is the single most important detail for a successful project. The right users will provide the correct information and feedback on requirements, prototyping, and quality. The project needs users who have the business knowledge, the wish to provide effort, and the time to participate.

POINT 2: Rapport

It is critical to develop and maintain a quality relationship with the user and user groups. Rapport is having a harmonious connection between the project team and the user or users. It is empathy with the stakeholders, which produces a commonality of perspective for the objectives of the project. It is the establishment of quality relationships that allows the project team to create and maintain an environment for users to be involved.

POINT 3: Soapbox

In order to maintain a quality relationship with the users, the organization needs to create a platform for good communication. If the users and user groups have an easy and straightforward method of communication, the more apt they will be to use it. There are several ways to set up a user communication platform, and it has never been easier, cheaper, and quicker. In fact, there are multiple channels such as WebEx, GoToMeeting, or Standish Decider.

POINT 4: Outcomes

It is important to demonstrate positive results along the way. Most users want results early and often. They get encouraged and enthusiastic when they see concrete progress. It is important to demonstrate results and provide useful capability along the way. Users are more likely to get involved and stay involved if they see real progress. The converse is also true: The slower the outcome and feedback, the higher the likelihood for a poor resolution.

POINT 5: Schooling

Users and user groups need to understand their roles and responsibilities as part of the project team. The user knows the corporation's business better than any other member of the team. Schooling is the teaching and learning that users perform to help the project team understand the project requirements. Schooling is also the teaching, learning, and transfer of information that the project team performs to help the users understand the project methodology.

USER INVOLVEMENT DIFFICULTY

The results show the opinion of IT executives when asked to rate how difficult it is for project executive sponsors to master skills on user involvement.

	Very Difficult	Difficult	Somewhat Difficult
Having a quality relationship with users	6%	41%	37%
Understanding how the user will use the solution	11%	47%	28%
Having the right information on explicit user needs	19%	30%	44%
Encouraging the use of steppingstones	0%	19%	68%
Dealing with the project community	7%	40%	39%

FEEDBACK SKILLS

	Highly Skilled	Skilled	Moderately Skilled	Poorly Skilled
Promoting rapid feedback	12%	33%	41%	14%
Gaining timely feedback	11%	40%	35%	14%
Gaining accurate feedback	10%	33%	37%	20%
Getting feedback acceptance	5%	41%	40%	14%

The results show the opinion of IT executives when asked to rate the skill-level of their IT project workforce's feedback techniques.

POINT 6: Consensus

Gather user feedback and achieve consensus. So the key question is, how does the project team optimize support to contribute to successful projects? The first thing the team needs to do is gather feedback and then work to a consensus or at least an agreement. Lacking that, then, the team should have an agreement to disagree. In addition, user feedback to build to consensus should be tempered with what they need, what they want, and the likes of the executive sponsor.

POINT 7: Evangelist

All projects need to identify and recruit an evangelist. Projects that have users or user groups who zealously evangelize and disseminate the project's value throughout the organization score better in Standish Research project evaluations than those that do not. An evangelist broadcasts the benefits of the project throughout the corporation and gains support of the user community and senior management. In essence, evangelism, a form of marketing, is a very intense style of communication.

POINT 8: Primary Research

Project leaders must understand why and how to conduct primary research, which is the collection of original data and information. Primary research techniques include interviews, surveys, focus groups, and case studies. In-depth primary research will include three out of four of these techniques. The more in-depth the research is, the higher the likelihood of meeting the users' requirements and a successful resolution. Secondary research is the compilation of existing studies, which often results in misleading requirements.

POINT 9: Respect

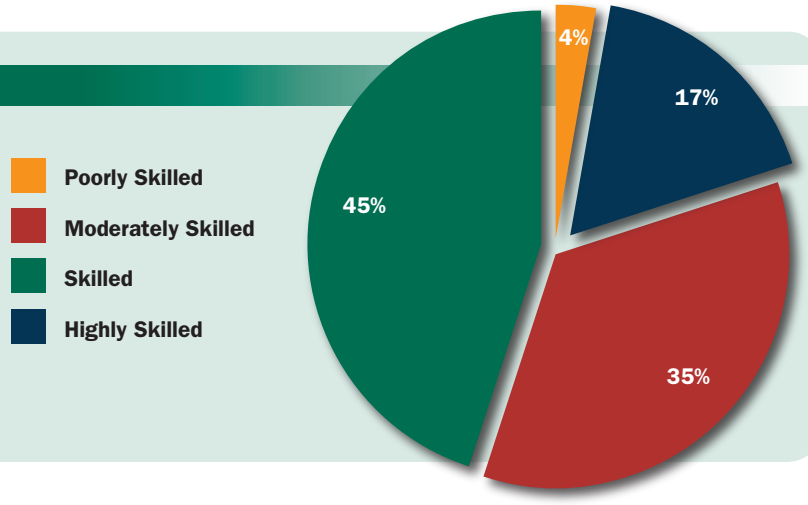
Never fail to show respect for users. The project team needs stakeholders to provide constant information and feedback to them. In order to get users involved, the project team needs to show them respect. The project team also needs stakeholders to respect them. In order for them to respect the team, the team needs to respect the stakeholders. It is a mutual circle of respect. The less respect given, the less respect received.

POINT 10: Tuned In

It is key to focus on the real user needs. Focusing on the real user needs is one of the most important factors in the overall success of a project. Sometimes the project team loses sight of why they are developing the applications and/or system. They are developing the system of the users to be used by users. If someone is tuned into the real users' needs, they are aware of them, they understand them, and they are concentrating on them.

CORRECT USER

The chart shows the DARTS results of the question, "How would you rate your organization's ability to recognize the correct users to provide project requirements?"



CASE ANALYSIS: Virtual Fence Project

For many years citizens from Mexico and other Latin American and non-Latin American countries have crossed the 2,000-mile border between Mexico and the United States to seek a better life and opportunity. The patrolling of the border to keep these illegal immigrants out of the United States was both erratic and apathetic. However, after the attacks on September 11, 2001, the commitment to secure the border, not from illegal workers, but from terrorists, became more intense.

The SBInet project started out as Project 28 with a cost of $70 million that ballooned up to a billion dollars; the name was changed to Border Initiative Network, or SBInet. Standish classified this project as a failure. Congress called for a do-over. Ultimately, the U.S. taxpayers got nothing for their billion dollars. What Boeing, the contactor, and Homeland Security, the executive sponsor, committed was the unforgivable sin of not getting the user involved. The project failed, but they would have had a better chance of success if they had:

1. Identified users who wanted to be on the project
2. Made the values of the project clear to the users
3. Created a platform of two-way communication
4. Demonstrated capabilities early and often
5. Provided a clear and understandable feedback capability
6. Secured agreement on the high-value items
7. Secured an evangelist to promote the project to the users
8. Executed a series of primary research, such as surveys and focus groups
9. Built an environment of trust with the users
10. Challenged the validity of the requirements

LESSON TWO: Executive Management Support

It is crucial that the executive have a vested business interest and a commitment to a successful outcome. Most successful projects have quality executive sponsors with expert vision and prompt responsiveness. Challenged and failed projects typically lack quality executive support. In most cases, projects without quality executive support will perform poorly. It is the business executives who ultimately determine whether or not a project will be a winner for the company. Many IT projects are the result of board-level decisions, and the fate of an executive is often riding on a successful outcome. Understanding not only the roles, responsibilities, and behavior of business executives, but the skills needed to be a good executive sponsor is paramount to a successful project.

The first thing necessary is to define the role of executive sponsor. In our opinion, the executive sponsor is the owner of the project. As the owner of the project, the full weight and responsibilities of the success or failure of the project falls squarely on his or her shoulders. It is unfortunate the word "sponsor" denotes a rather hands-off approach or distance from the actual hand-to-hand combat needed to bring a project to a successful resolution. There can be no distance between the project resolution and the sponsor. In many of the agile methodologies the word "owner" is used in place of "executive sponsor." The words "owner," "customer," or "captain" might be more appropriate.

The sponsor may not be an executive of the organization, but he or she is the chief executive of the project. The word "executive" symbolizes a higher level of responsibility than just "sponsor." The executive sponsor, for better or worse, owns the outcome. The executive sponsor has no right to abdicate his or her executive responsibility. He or she cannot blame the project manager, the IT executives, users, stakeholders, reluctant peers, vendors, or software developers. The sole responsibility for a successful outcome rests on the shoulders of the executive sponsor.

CHEETAH'S LAW:

Swift decisions are typically better than long, drawn-out analysis.

ULTIMATE RESPONSIBILITY

	Executive Sponsor	IT Management	User/ Stakeholders	Project Manager	Development Team
Failed project	43%	36%	7%	14%	0%
Successful project	35%	25%	14%	11%	15%

The results show the opinion of IT executives when asked who should take the ultimate responsibility for a failed IT project and who should take the lion's share of the credit for a successful IT project.

10 CHAOS SUCCESS POINTS FOR EXECUTIVE SUPPORT

Point 1: Simple Vision

Develop and maintain a clear and simple vision statement; it is imperative to the overall success of any project. A simple statement is easy to understand or use, and not artificially elaborate, complicated, or complex. The Standish Group suggests that a concise definition of the project vision be written before developing the requirements. Remember a vision is the act or power of anticipating that which will or may come to be in the future.

Point 2: Commitment

It is crucial that the executive have a vested business interest and a commitment to a successful outcome. A project begins with an enthusiastic team of members, including the executive sponsor. However, as the project proceeds, the executive sponsor may find increasing signs of trouble such as missed deadlines, a soaring budget, unhappy clients, and overworked team members. During these times the executive sponsor may question his or her commitment to the project.

Point 3: Blink

While thinking is clearly necessary, and important, don't spend too much time doing it! In any project, participants are constantly faced with making prompt, effective decisions. An executive sponsor who can guide discussions and encourage creative thinking can help his or her team to fully consider all alternatives and reach the best solution. The executive sponsor needs to set ground rules about how a decision should be made, and how quickly, such as in the blink of an eye.

Point 4: Velocity

Velocity is the rate of advancement of a position of a project in a specified direction. Fast decision-making requires a decision pipeline. Time is the enemy of all projects, and again, that includes decision time. The executive sponsor needs to have a method for how decisions should be made through the life of a project. A decision pipeline is a method an executive sponsor can use to create velocity. Maintaining high velocity is key to project success.

Point 5: Edification

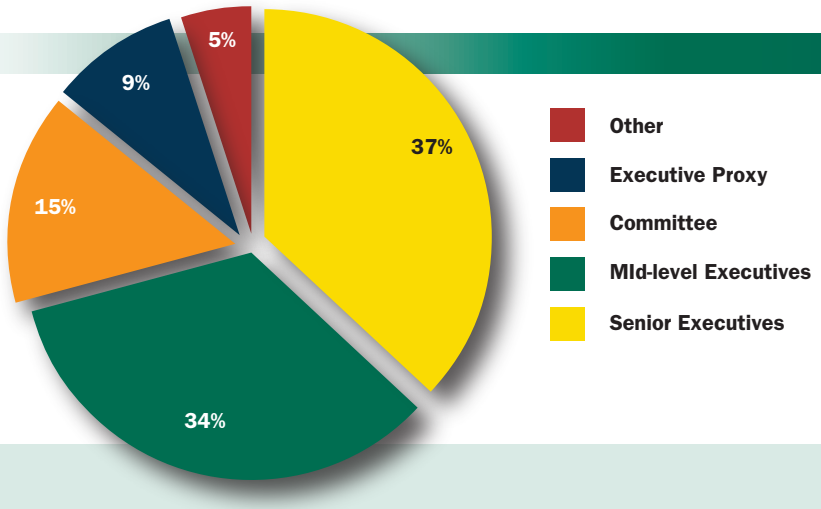
Executive sponsorship begins with basic education on the project management process with the executive sponsor's roles and responsibilities. Our research clearly shows that projects where the executive sponsor has a fair to poor understanding of the project management process fall into both the challenged and failed categories. Those projects with executive sponsors who have a high to moderate understanding do much better. An educated executive sponsor will help in the success of the project.

EXECUTIVE DECISIONS

This table provides comparison results on executive decisions. For example, in the first row we see 73% of IT executives think making quick decisions is important, 50% think it's difficult for executives to learn this skill, only 45% executives are skilled at making quick decisions, and 52% believe IT is skilled at helping executives make quick decisions.

	Important	Difficult	Skilled	IT Influence
Making quick decisions	73%	50%	45%	52%
Getting people to accept their decisions	92%	51%	60%	57%
Distribution of decision power to team members	70%	62%	42%	40%
Getting others to make quick decisions	47%	69%	32%	40%
Encouraging the use of a decision pipeline	57%	67%	26%	35%

SPONSOR TYPES



This chart shows the percentage of projects by type of executive sponsor.

Point 6: Measurements

Successful project completion is contingent upon reaching specified goals. Use those goals, which include time lines, budgets, and features/functions, as a yardstick for measuring if the project is on track. The game of golf suggests that the winner will hit a golf ball fewer times than the other players. After each hole the scores are tallied and each player knows where he or she stands. A similar principle applies to project measurement.

Point 7: Negotiate

Putting together a successful project plan requires negotiation. Every project must have a business objective such as: increasing revenue, improving customer satisfaction, reducing errors, cutting costs, or improving control. The scope, which defines the boundaries of the project, such as the business functions and organizations impacted, as well as the constraints, such as deadlines, budget ceilings, and other assumptions, must be defined in business terms. Negotiation is the understanding of who will do what when, and how.

Point 8: The Plan

A project plan must be well thought out and well articulated to all parties involved, particularly the executive sponsor. The executive sponsor is the project's champion and communicates the project's importance to the business. In order for the executive sponsor to communicate to the rest of the organization he or she must know what the problem is, what the solution is, and how the solution will be accomplished by the project. In other words, have a plan.

Point 9: Kill Switch

Every project should have a kill switch. A kill switch is a predetermined position where it is unwise to continue to invest in the project. It is normally set off when certain tasks have not been met and the future is uncertain. The purpose of a kill switch is to prevent death-march projects where no one has the courage to stop the project. If a project reaches the point where it no longer makes sense, flip the switch!

Point 10: Celebrate

It's important to celebrate success. The executive sponsor should cultivate an atmosphere of accomplishment and focus on execution. Most behavioral scientists recommend positive reinforcement of desired behavior and ignoring unwanted behavior. One of the best tools an executive sponsor can use to advance this practice is celebration. Celebration allows the executive sponsor to reward accomplishment and behavior that will advance the progress of the project. When a goal is reached it is a good time to praise accomplishments.

SIZE-COMPLEXITY MATRIX (SCM) FOR EXECUTIVE SPONSORS

This matrix provides a guideline on burdening the senior executive sponsor. An average senior executive sponsor can only manage a total of 325 (SCM) points at any one time, or the green zone. For the yellow zone, a good and effective executive sponsor is required. The red zone should be avoided and broken into manageable projects over multiple executive sponsors. Use the size and complexity charts on page 3 to calculate points.

		COMPLEXITY				
		C1	C2	C3	C4	C5
SIZE	S1	100	250	400	550	700
	S2	175	325	475	625	775
	S3	250	400	550	700	850
	S4	325	475	625	775	925
	S5	400	550	700	850	1000

CASE ANALYSIS: FIDELITY'S VANTAGE 20/20 PROJECT

Fidelity's Vantage 20/20 system was a major development effort to implement a new IT infrastructure to be able to reengineer the core business functions and rearchitect platforms as technology changed. The new infrastructure was to position the firm for the future. The design goals were a scalable architecture to ensure growth in both volume and number of applications, and a fully open solution allowing the ability to substitute vendors as technology changed.

Fidelity faced many hurdles: building a staff to implement the new technology, and connecting it to the legacy applications. The system never replaced the core mainframe systems supporting the company's mutual funds and brokerage operations. Fidelity canceled the project and laid off the project's IT employees. While the original estimate was $100 million, Fidelity actually spent over $250 million on the Vantage 20/20 project, prior to its cancellation. The project failed, but they would have had a better chance of success had they:

1. Presented the vision in a manner that everyone could understand
2. Explained the commitment of time and effort to the executive sponsor
3. Explained the downside of slow decision-making to the executive sponsor
4. Used a decision pipeline for rapid decision-making
5. Educated the executive sponsor on the project
6. Used a measurement system for cost, risk, and gain
7. Understood the informal power structure of their own organization
8. Had an agile and flexible project plan
9. Had a kill switch to reduce waste
10. Celebrated small successes along the way

LESSON THREE: Clear Business Objectives

Clarity and focus are essential to a successful project. Every stakeholder will have his or her own agenda that needs to be fulfilled by the project. It only stands to reason that 10 stakeholders will equal 10 individual goals. This is a major issue because these variable and self-interested needs will often conflict. It is vital that every project have clear business objectives. Stakeholders measure projects based on factors such as customer satisfaction, increased revenue, or decreased cost. All projects must have priorities based on business needs, whether they are short- or long-term goals.

Clear business objectives are achieved when all the stakeholders are focused on and understand the core values of the project. The executive sponsor is the prime person to convey these values. One of the best ways to convey these values is by having a simple vision statement. Yet we find that two-thirds of IT executives believe developing and maintaining a simple vision is a difficult skill for executive sponsors to master. Stakeholders need to be able to see the big picture and know how the project aligns with the organizational business strategies. Yet, again, the same two-thirds of IT executives believe that providing clarity of purpose is a difficult skill for executive sponsors to master.

Meeting and beating the competition is a frequent business objective, but it must be quantifiable. If one bank is on social networks, other banks need to be on them as well—even though they may not be able to justify the project from a return-on-investment standpoint. If the bank can keep a customer from going to its competitor, what does this do to the bottom line? What if the customer would have left anyway? How much does it cost to gain new customers? Measuring the value of anything is difficult; therefore, clear business objectives are a must as the first step in measuring the value of a project.

LAW OF THE ROADS: It does not matter which road everyone comes from, as long as they end up in the same place.

IT VALUE EFFECT

	Major Effect	Medium Effect	Minor Effect
Project management leadership	71%	22%	7%
Executive sponsor participation	45%	40%	15%
Technical expertise	52%	48%	0%
User participation	84%	12%	4%
Vendor support	35%	39%	26%

The table shows the results of the question to IT executives, "For your organization, in increasing IT value what effect do the following activities/skills have impacting its increases?"

10 CHAOS SUCCESS POINTS FOR CLEAR BUSINESS OBJECTIVES

Point 1: Same Page

It is imperative that everyone have the same understanding of the project's business objectives. Each stakeholder will have his or her own vision of the project. They will have new ideas and explore their own feelings and thoughts about the project. However, it is imperative that everyone be on the same page. Divergence of goals can cause the project to overrun its budget and schedule or even prevent a successful completion.

Point 2: Elevator Pitch

Business objectives need to be comprehensible and concise. They should take no longer to recite than the length of an elevator ride. A complicated explanation generally denotes a lack of understanding. A clear and concise interpretation of the objectives and concrete deliverables can smooth any project's rough spots and help minimize challenges and obstacles to success. If you can't explain it in 10 seconds, you probably have not got it right.

Point 3: Big Picture

Always look at the big picture. The project team needs the view of how the project fits with the overall corporate strategy and other applications, as well as both current and future projects. It is important for the project team to have a common understanding of how the project can advance the overall goals of the organization. The objectives should roll down throughout the organization starting at the executive level. The results are then measured against the committed objectives.

Point 4: Speed

There is a need for speed, for time is the enemy of all projects. In software development projects you want to travel the least possible distance in the shortest amount of time. However, with software projects, as with driving an automobile, the faster one drives the less control the project team has over the final result. This does not mean you do not travel fast; it just means the ride at times might be a little frightening.

Point 5: Yardstick

Projects need measurements to stay on track, so a yardstick in this context is any project standard of measurement and judgment used for a quick comparison between projects, tasks, and functions. Obviously, there are things beyond anyone's control that can negatively impact a project, but many of these factors can also be mitigated through risk and dependency management. Project objectives need to be clearly stated and defined, and they also need to be measurable.

CLARITY SKILLS FOR THE EXECUTIVE SPONSOR

The results show the opinion of IT executives when asked to rate the skill level of their IT project executive sponsors regarding clarity.

	Highly Skilled	Skilled	Moderately Skilled	Poorly Skilled
Providing clarity in purpose	10%	38%	47%	5%
Developing and maintaining a simple vision	5%	43%	45%	7%
Having a succinct vision	4%	40%	49%	7%
Communicating in a common vocabulary	12%	34%	44%	10%
Setting goals	14%	52%	29%	5%

MODERNIZATION RESOLUTION COMPARISON

RESOLUTION	CASE 1: APPLICATION DEVELOPMENT	CASE 2: PACKAGE APPLICATION	CASE 3: MODERNIZATION
Successful	4%	30%	53%
Challenged	47%	54%	39%
Failed	49%	16%	8%

This chart, from our white paper, "Modernization: Clearing a Pathway to Success," shows the results of three different types of projects for the same application. It clearly shows that modernization of an existing system minimizes or eliminates the top three areas that cause the most problems.

Point 6: Return on Investment

Return on investment (ROI) is a good place to start when looking at the business objective. In most commercial businesses there are only two types of project objectives: those mandated by government organizations, such as the IRS, or those done to improve the profits and value of the organization. Return on investment is a performance measurement used to evaluate the efficiency of a project investment and to compare that project to various other projects.

Point 7: Collaboration

Collaborating is the act of working together with project contributors and stakeholders to reach the project's business objectives. Collaboration provides correctness in translation of what people are saying back and forth and plays an extremely important role in what's going on. Establishing clear and concise business objectives is imperative. Collaborating with all project contributors and stakeholders can help you recognize weaknesses and tension points, determine priorities, as well as identify potential setbacks.

Point 8: Peer Review

A strong foundation for a peer review process can greatly benefit the project. Peer review is the evaluation of a project's work or performance by a group of other people. These people could be in the same occupation, profession, or industry. The peer group could be made up of people from within the organization, outside the organization, or a combination of both. The product of a peer review can be a formal report or an outline of suggestions.

Point 9: Too Many Cooks

Consider the ancient proverb, "Too many cooks spoil the broth." In this context, having too many people involved in the project can cause it to stall or move slowly. This is not a statistic, such as 10% of users, but a finite number. The optimum size of a team is six for any given project. Any team with more than six members reduces the chances of success with each additional member.

Point 10: Black Tie

Often black tie is more appropriate than business casual. Black tie in this context is the formal process understood by the organization's stakeholders and project team members. The black tie process is a predefined set of process-based techniques. Three of the major components of the black tie process are: problem statement, requirements document, and project plan. In the agile process the requirements document is replaced by user stories and the project plan is variable.

MODERNIZATION COMPARISON

This chart is also from "Modernization: Clearing a Pathway to Success." Here we compare some of the CHAOS Success Factors across the three types of projects, which illustrates why modernization enjoys greater success than new development or package application. Please note the number of decisions that need to be made in each of the cases.

	CASE 1: NEW DEVELOPMENT	CASE 2: PACKAGE	CASE 3: MODERNIZATION
User involvement	Hard	Hard	N/A
Executive support	Hard	Hard	N/A
Clear business objectives	Hard	Hard	Easy
Optimization	Hard	Hard	Easy
Emotional maturity	Hard	Hard	N/A
Size	Large	Medium	Small
Complexity	Complex	Complex	Simple
TIme	Long	Long	Short
PM Mechanics	Intense	Intense	Loose
Decisions	15,000	7,500	500

CASE ANALYSIS: California DMV

The California State Legislature passed a law that persons with outstanding parking tickets, taxes, or a suspended driver's license could not renew their vehicle registration. However, the California DMV had two major systems that did not work together because they were built by hand using assembler code and outmoded database indexing. Changes were difficult, costly, and often failed to work at all. In addition, the system was expensive to maintain and skilled staff retention was a growing concern.

The DMV project was a total rewrite of both applications using modern technology. Coming from an assembler language, they decided to leap forward and use an experimental rules-based development system that was not fully understood or functional. However, one of the major constraints put on the development team was that changes in the new environment must work in parallel with the older system. The project failed, but they would have had a better chance of success had they:

1. Had a common understanding of the goal of the project
2. Had the ability to recite the goal in 10 seconds
3. Understood how the project fit into the big picture
4. Had a sense of urgency to complete tasks quickly
5. Applied accurate and concerted measurements
6. Conducted a detailed value analysis
7. Held capable and accountable peer reviews
8. Had a mature system for collaboration
9. Put together a small expert and experienced team
10. Had a formal but flexible project process

LESSON FOUR: Emotional Maturity

We must consider that emotional maturity is the ability and capacity to perceive, assess, manage, and direct the emotions and actions of the project stakeholders. It is the ability to rise above petty politics and provide both balance and a transparent view. It is the ability to identify and remove unnecessary requirements, as well as the aptitude to deliver bad news and accept critical feedback. It is the skill to recognize and deal with the Five Deadly Sins, which are overambition, arrogance, ignorance, abstinence, and fraudulence. It is the ability to acknowledge and endorse the CHAOS Commandments of project management, which are community, honor, awareness, objective, and superior.

The Five Deadly Sins are part of all project ecosystems, healthy and unhealthy. In fact, a project cannot be successful without them. For example, every project will have an impatient visionary, which results in overambition—the first deadly sin. It is how you deal with each of these sins that will determine the success or failure of a project. The majority of IT executives believe that overcoming the Five Deadly Sins is too difficult. For example, two-thirds of IT executives believe that overcoming abstinence skills is slightly difficult or not difficult for them to master. But what does give them difficulty is recognizing this in time to prevent the project from failing.

The CHAOS Commandments are proactive techniques used to promote maturity in emotions within project teams. By taking a proactive approach the organization avoids the gnarly problem of recognizing and overcoming the Five Deadly Sins. The five CHAOS Commandments let the project team set the agenda, manage expectations, and move the process along. The CHAOS Commandments start and end with managing not only the real project's outcome, but also the perceived project's outcome. It is also knowing when and when not to do something. CHAOS Commandments help the organization improve the skills to be self-aware, socially aware, self-managed, and to manage relationships.

LAW OF THE FIVE DEADLY SINS:

You will encounter the Five Deadly Sins in all projects.

COMPLIANCE AND GOVERNANCE

	Highly Important	Important	Somewhat Important	Not Important
General procedures	21%	52%	27%	0%
Best practices	18%	65%	17%	0%
Process improvement	38%	52%	10%	0%
Adaptability	32%	50%	18%	0%

The results show the opinion of IT executives when asked to rate the importance of skills in implementing and maintaining compliance and governance activities.

10 CHAOS SUCCESS POINTS FOR EMOTIONAL MATURITY

Point 1: Overambition

Overambition is a strong desire to execute a significant project to gain fame, fortune, or power through the impact of overreaching goals. Emotional maturity starts with understanding what traits to look for in project participants. No sin is more dangerous to a project than overambition. Normal ambition is good, for we would be nowhere without it. However, uncontrolled ambition is the problem—it is like a tornado. The project needs to funnel ambition to accomplish some useful goal.

Point 2: Arrogance

Arrogance is the unwarranted, overbearing pride evidenced by a superior manner toward superiors, peers, and inferiors. Arrogance correlates pretty closely with past successes. Very often you will run into a development team that just came off a successful project. Arrogance also correlates with intelligence and creativity. The line between confidence and arrogance is very blurry. It is very important for you to know when a person has crossed the line from self-confidence into arrogance.

Point 3: Ignorance

Ignorance is the condition of being unaware, uninformed, uneducated, and/or unsuspecting about the project and stakeholder goals, directions, details, issues, and opportunities. Many stakeholders practice rational ignorance. Rational ignorance is when the cost of educating oneself about the issue sufficiently to make an informed decision can outweigh any potential benefit one could reasonably expect to gain from that decision. Ignorance is often coupled with apathy: in other words, “I don’t know and I don’t care!”

Point 4: Abstinence

Abstinence, in the context of project management, is the act or practice of refraining from participation and contribution to the project. If people have a choice they may choose to stay away. If they have primary commitments to their main job that the project interferes with, they will stay away. It also means that the person does not want to be identified with the project. Absence of critical stakeholders is the bane of a successful project.

Point 5: Fraudulence

Fraudulence is an action intended to deceive; it is deliberate trickery intended to gain an advantage or to avoid confrontation. Fraudulence can take many forms, such as trying to cover up the real status of the project. Some of the things a person might do are intended to deceive their superiors and co-workers. Other things a person might do are to only fool themselves into believing that they can turn things around. Fear of others finding out their failure is a contributor to fraudulence.

FIVE DEADLY SINS SKILLS

The results show the opinion of IT executives when asked to rate the skill level of their IT project executive sponsors on overcoming the Five Deadly Sins of project management.

	Highly Skilled	Skilled	Moderately Skilled	Poorly Skilled
Overcoming fraudulence	26%	53%	16%	5%
Overcoming arrogance	10%	52%	21%	17%
Overcoming abstinence	4%	42%	40%	14%
Overcoming overambition	4%	41%	21%	34%
Overcoming ignorance	7%	53%	33%	7%

	Very Difficult	Difficult	Somewhat Difficult	Not Difficult
Obtaining and communicating the facts	1%	44%	40%	15%
Promoting honor and pride	7%	24%	56%	13%
Demanding awareness	1%	47%	43%	9%
Demanding objectivity and transparency	10%	51%	33%	6%
Promoting excellence	13%	32%	38%	17%

The results show the opinion of IT executives when asked to rate how difficult it is for their project executive sponsors to master CHAOS Commandment skills.

Point 6: Community

Creating and maintaining a community facilitates a healthy ecosystem. A community in the context of a project, program, or ecosystem is a unit of sociopolitical and economic organization consisting of a number of people, groups, departments, and divisions. Community leadership is typically formalized but casual and permanent, and at the same time fluid. Membership and the power structure in the community are very dynamic. A healthy project community shares a common language, culture, and opportunity.

Point 7: Honor

Honor starts with management values. Honor is the sense of satisfaction taken in an achievement, possession, or association with a project, program, or ecosystem. Actions needed to create and maintain a sense of honor are awareness, transparency, communication, and sponsorship. Honor starts with management values. There should be a good feedback system that provides information about both positive and negative happenings. There should be a project focus. The organization should have some social responsibility.

Point 8: Awareness

Focus on creating and maintaining awareness. Awareness is the condition of being aware, informed, educated, and/or curious about the project and stakeholder goals, directions, details, issues, and opportunities. However, we all suffer from too much information. The actions needed to create and maintain a sense of awareness include designing a communication system that provides the right information to the right levels at the right time, reducing information overload. Information must have the right level of detail.

Point 9: Objective

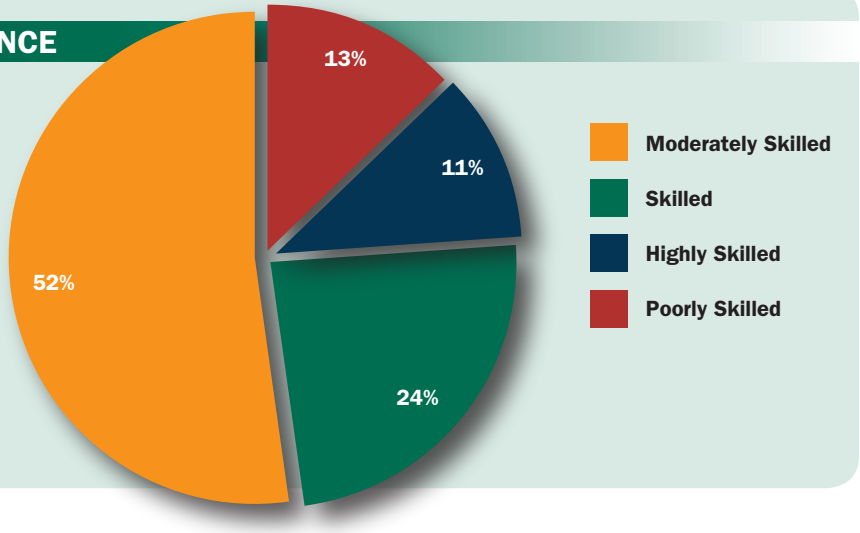
Transparency starts with being objective. Objective is expressing or dealing with facts or conditions of a project, program, or circumstances as perceived without distortion by personal feelings, prejudices, or interpretations. The major problem is everyone has their own version of reality and experiences. A solid solution is to make everything transparent and continuous. It is the art of limiting the project's choices to a set of fixed alternatives and reducing subjective factors to a minimum.

Point 10: Superior

Excellence is the ardent and zealous pursuit of perfection. Superior is a strong desire to execute the tasks and work within a project, program, or ecosystem to produce a higher-quality product or service. Superior is a special feature or quality that confers excellence. People who strive for excellence show deep caring, sincerity, and/or seriousness about a project, program, or ecosystem. Excellence is not settling for mediocrity in the project management process.

OVERCOMING ARROGANCE

The results show the opinion of IT executives when asked, “As a group, please rate your project managers’ skill in overcoming arrogance.” Two-thirds of respondents believe their project managers do not have the ability to overcome arrogance.



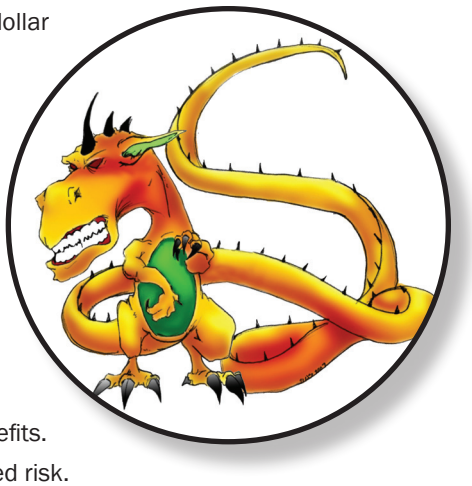
CASE ANALYSIS:
Bose’s Infrastructure Improvement Project

Bose Corporation is an innovative leader in sound. For many years Bose had been accumulating data on a multitude of platforms. Each of these systems was departmentalized and standalone, with its own applications and storage. They were not accessible by other systems. The infrastructure improvement project was initiated by IT with no external user involvement. IT set out to do something that would improve information access and reduce costs.

The executive sponsor failed to make the goals of the project clear. There was no agreement among the stakeholders on the problem or the solution. The technical teams had multiple conflicting answers and all had their sacred cows. The project went through a number of starts, changes, and stops over many weeks until it was finally canceled. The project failed, but they would have had a better chance of success had they:

1. Broken the project into steppingstones and delivered in small implementations
2. Tied a successful project outcome across all the stakeholders
3. Created educational opportunities and mandated that all essential stakeholders participate in them
4. Removed and replaced any member who did not participate in the normal project activities
5. Mandated that all participants attend an ethics training and education program
6. Provided a common means of demonstrating functions or features
7. Insisted on open and honest transparency
8. Persisted in getting meeting participation
9. Maintained their objectivity
10. Committed to quality and excellence

LESSON FIVE: Optimization

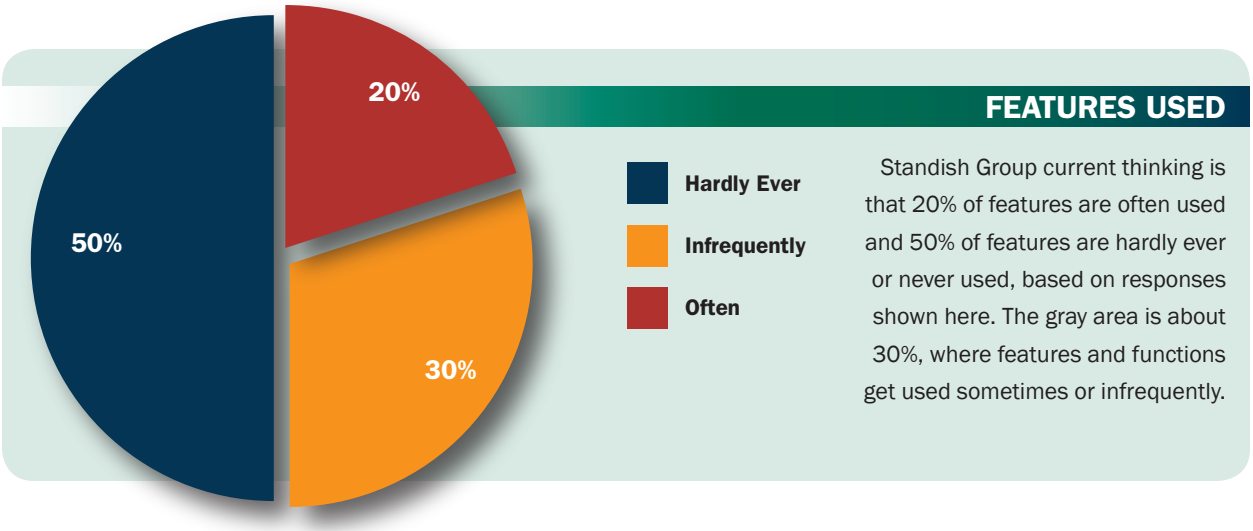


The great retailer F. W. Woolworth once said that 50 cents out of every dollar he spent on advertising was wasted. He went on to say that he wished he knew *which* 50 cents. That is the same problem with requirements: 50% of software features are not used or are wasted, while other needed features are sorely missed. Over- and underbuilding applications are the biggest forms of software development waste. The Standish Group believes optimization based on value is the silver bullet to solve the issue. Expansion of requirements, more times than not, can cause a project disaster or failure. The key to optimization is constraining scope to just those elements that are absolutely necessary.

Optimize the project based on what business values have the greatest benefits. These benefits can include: greater participation, greater gains, and reduced risk. One of the real keys to optimizing the business value is to narrow the organizational coverage. Having the project focus on a single department or a single business process that has the highest business value should reduce the project's size, making it more manageable. The reduced size allows for greater participation from a more invested executive sponsor. The reduced size allows for more focused users and less conflicting interests. The next department or process area can build off this project for their project.

Projects must be continually reevaluated in terms of their meaning to the future of the business. In order to determine whether or not you have optimized scope for a particular project, consider: The optimal scope must be consistent with the business strategy. The project team must break down the scope into short-term, mid-term, and long-term objectives and clearly communicate these objectives to all the stakeholders. The scope of a project should have buy-in from the stakeholders, and there should be a procedure for constant reevaluation. Comedian Bill Cosby once said: "I don't know the key to success, but the key to failure is to try to please everyone."

LAW OF THE LONG-TAILED MONSTER: You will always build too much of what you don't need and not enough of what you do need.



10 CHAOS SUCCESS POINTS FOR OPTIMIZING SCOPE

Point 1: Scope

The scope of a project must be contained. Scope is the total or sum of the deliverables and services to be provided by an IT project or program. A statement of project scope includes a list of deliverables, project objectives, and a description of project success criteria, such as cost, quality, and schedules. All time and cost estimates are based on the scope of the project. Managing scope is a never-ending task. Runaway scope will demoralize your team and kill a project.

Point 2: Accurate Estimates

Creating accurate estimates for a project is difficult, but critical. In developing a more systematic approach toward project estimating, you need to face a bit of realism. Truly reliable estimates are rare birds. There is no estimating panacea. However, one good method is profiling. Profiling the current project against other past projects to isolate costs is tricky and difficult at best, but this approach is much better than many of the alternatives.

Point 3: Optimal Team

The members of a project team are inclined to have a stronger commitment to the team if they feel their participation and contributions are valued. The team members are the closest people to the project on an ongoing basis and should be encouraged to openly provide input and feedback. The team must also feel it has the support of the executive sponsor and project leader, who must demonstrate commitment to the project and the team.

Point 4: Expectations

Managing expectations as to what stakeholders and users believe will be the outcome of a project is crucial. By minimizing and optimizing scope, it is much easier for the project team to set expectations. Expectations in a project context might be the cost, time, or quality of an outcome. Expectations may include certain features promised or tasks completed. Disappointment is the negative difference between an expectation and reality. Satisfaction is the positive difference between an expectation and reality.

Point 5: Butterfly Effect

The butterfly effect is part of the Chaos theory and considers the notion that small differences may produce big changes. Optimizing a project does not just mean the size and scope of the project, but the greater project environment that is inclusive of others such as executive support, users, and other stakeholders. Most of these are non-budget resources. In most cases the executive sponsor and stakeholders are unaware of the effort they will be required to make.

IMPORTANCE OF MERCILESS PRUNING

The results show the opinion of IT executives when asked to rate the importance of merciless pruning or refactoring skills.

	Highly Important	Important	Somewhat Important	Not Important
Merciless pruning in general	23%	48%	16%	13%
Pruning before development	28%	51%	9%	12%
Pruning during development	8%	51%	29%	12%
Pruning after development	7%	25%	43%	25%

DIFFICULTY OF MERCILESS PRUNING

	Very Difficult	Difficult	Somewhat Difficult	Not Difficult
Merciless pruning in general	11%	42%	34%	13%
Pruning before development	8%	32%	45%	15%
Pruning during development	12%	39%	33%	16%
Pruning after development	27%	28%	31%	14%

The results show the opinion of IT executives when asked to rate the difficulty of mastering merciless pruning or refactoring skills.

Point 6: No Releases

For the vast majority of applications formal releases are just not necessary. Releases are costly. Releases cause poor quality. Releases stifle progress. New functionality should just appear. The nice thing is that when new functionality arrives in small doses the user does not need to learn a lot of new features at one time. Releases are artifacts of a bad idea in old-fashioned software development. If release methods are ingrained in your software life cycle, break the cycle.

Point 7: Risk First—Not!

Do the easy stuff first! Do the hard stuff last. If it's possible that the project team can avoid the risky things, don't do them at all. Risky items should always have closer inspection on value versus gain to the organization and to the success or failure of the project. The only time to do the risky items first is if the success of the project is dependent on the risky features and functions. However, this is a rare case.

Point 8: Mitigating Risk

Consider the risk of each requirement. Requirements in the context of project management are groups of tasks that build, develop, and implement software components, objects, and code. You have by now put requirements into three different categories: baseline, yield, and non-yield. Like tying the ROI to requirements, tying risk to this process is also a very iterative and dynamic process. First, every project has risk, so you should start every project with a risk assessment.

Point 9: Yield

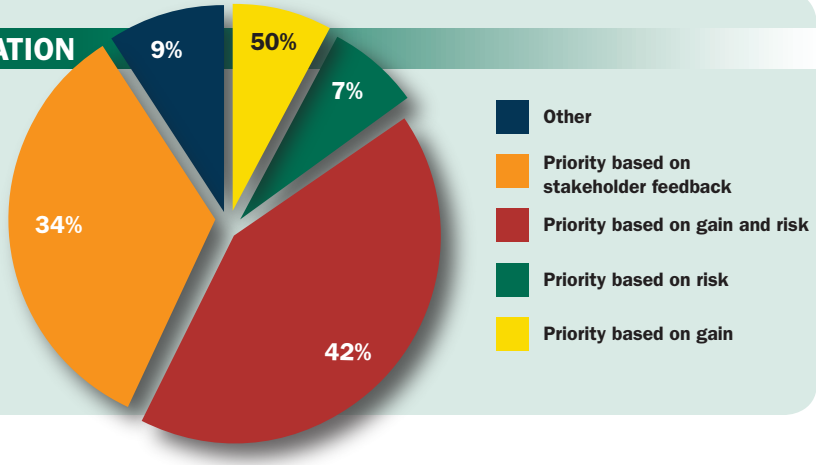
Assess project requirements by their yield or gain. Categorize each feature by baseline, yield, and non-yield. A baseline is a requirement that, without it, the system would simply not work. Examples of this type of function might be database access or the ability to read a credit card. Yield requirements are items for which an ROI number or a value can be assessed. Non-yield requirements are not baseline items, nor can they show a return on value.

Point 10: Panda Bears

Consider cost, risk, and gain collectively in your decision-making. Panda bears, in the context of project management, are requirements that have both a high risk and a high yield. The strange name came from our zoo workshops that had panda bears weigh up against other animals with less risk and/or less gain. The idea is that there are few real panda bears, but when they do occur they need to be considered with great care.

REQUIREMENTS OPTIMIZATION

The results show the breakdown of the general method of optimizing requirements.



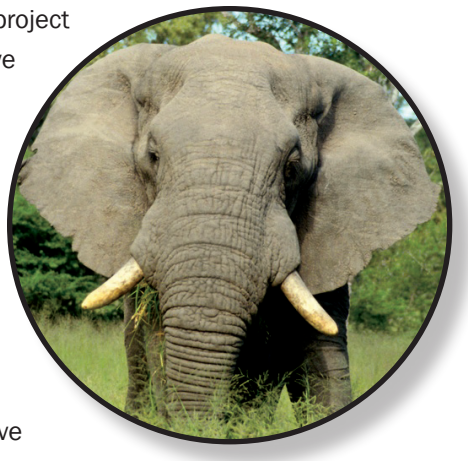
CASE ANALYSIS: IRS Tax System Modernization

The Internal Revenue Service's Tax Systems Modernization (TSM) was an IRS initiative to retire, redesign, and revamp its archaic information systems. The TSM project's objective was to design and deploy an integrated technology architecture that would ultimately improve the way the IRS conducted business. Communication would be streamlined, disparate computer operations would be consolidated, and tax collection and processing would be automated. The new implementation would eliminate the IRS' dependence on a paper-based process.

This particular project was one of many false starts and restarts. The requirements documents covered a small room five-feet high. The requirements it contained were features and functions of laws and rules long past and no longer valid. Unfortunately, project mismanagement, budgetary misalignment, and political dissonance thwarted an ambitious attempt to bring the IRS into the modern era. The project failed, but they would have had a better chance of success had they:

1. Removed and rejected functions and features that had no or little value to the business
2. Rated each requirement with a confidence level, and removed or delayed low-confidence requirements
3. Organized activities into microprojects with concerted deliverables
4. Educated all stakeholders on what functions would and would not be part of the new system
5. Made sure that the project stayed in synchronization with business plans and goals
6. Moved away from releases and moved to continuous delivery of small enhancements
7. Did the high-value, low-risk features and functions first
8. Organized activities by the risk
9. Organized activities by the gain
10. Optimized activities based on risk, cost, and gain

LESSON SIX: Agile Process



The agile process is the universal remedy for software development project failure. Software applications developed through the agile process have three times the success rate of the traditional waterfall method and a much lower percentage of time and cost overruns. The secret is the trial and error and delivery of the iterative process. Software should be built in small, iterative steps with small, focused teams. The project team delivers functionality in small bites or steppingstones. A steppingstone, also known as an iteration, is a small but significant deliverable. A steppingstone activity allows for tangible inspection, either visually or hands-on.

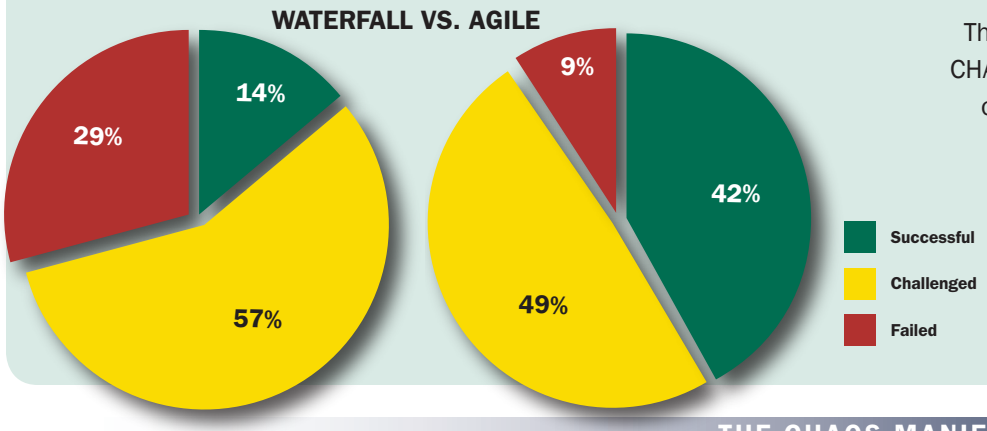
Steppingstones are a key driver for the success of the agile and iterative software development process. Steppingstones lead to more deliverables or indicate the project is not on the right track. Steppingstones are powerful because they allow for rapid feedback, creation of feature velocity, and accelerated user training and acceptance. Time is the enemy of all projects, but the agile process turns time into an ally. The agile process does this by using standard time intervals or time boxes. Time boxing sets deadlines and establishes a fixed amount of time in which to complete a steppingstone or iteration. A set number of steppingstones or iterations are then grouped into a microproject.

Project initiatives that are rigid run the greatest risk of dissolution. Yet, having a flexible, formal process has been proven to greatly improve the success rate. A good project management methodology builds in interaction among team members as well as the user community, and an agile process improves this interaction. Quickness and velocity are vital to an agile process, and that encompasses feedback. However, a major advantage of the agile process is the closeness of the executive sponsor, or in agile terms, the owner. The owner's role is to own the responsibility for the resolution of the project.

LAW OF THE EDIBLE ELEPHANT

The only way to eat an elephant is one bite at a time.

CHAOS RESOLUTION BY STYLE



The charts show classic CHAOS resolution results of waterfall versus the agile process from the CHAOS project database from 2002 to 2010.

10 CHAOS SUCCESS POINTS FOR THE AGILE PROCESS

Point 1: Iterative

The smaller the project, the greater the success rate. The iterative development style is the ultimate in small projects. Basically, iterative development consists of a series of tiny projects or what we call steppingstones. In the early '90s, Standish Group published the iterative development process; since then, iterative has become the basic foundation of multiple agile types of methodologies, such as Extreme Programming (XP), Scrum, and Rational Unified Process (RUP).

Point 2: Steppingstones

Projects should use steppingstones. A steppingstone is a small but significant deliverable or an agile iteration. A steppingstone activity allows for tangible inspection either visually or hands-on. Steppingstones are easy because you can see them. Each steppingstone is assigned an owner who is responsible and accountable for its completion. A project plan should comprise identifiable steppingstones that are measurable, quantifiable, and concrete. Steppingstones are keys in the iterative software development process.

Point 3: Time Boxing

Consider the use of time boxing, which involves pre-established deadlines and a fixed amount of time in which to complete the project or steppingstones. Extreme Programming (XP) recommends a week to complete an iteration or steppingstone, or a discrete set of requirements depicted on 3x5 index cards. Some organizations find a two-week interval a better time box. With the Scrum method, it is a month. You should consider the use of time boxing and a prioritized feature list.

Point 4: Elastic

Projects are innately perilous. There is traditionally a chain of command for mapping procedures and execution strategies. Having no formal plan of attack puts the chances of success in jeopardy. What is even more dangerous is to have a plan that has details and objectives that are too specific to not allow for flexibility. Time and again, lack of flexibility has proven to be one of the most damaging aspects of project failure, though it is the most preventable.

Point 5: Interaction

A good project management methodology includes interaction among team members as well as the user community. The agile process has built-in interactions, such as stand-up meetings, story conversations, demonstrations, and retrospectives. Interaction is a mutual exchange between the project team and stakeholders. It is also the mutual and reciprocal accomplishment exchange within the project team that includes plans, steppingstones, test scripts, technical advice, feedback, change requests, and other action items.

STATE OF ITERATIVE

This table provides comparison results on the importance of the iterative process, the difficulty of mastering the process, and the current skill level.

	Important	Difficult	Skilled
Managing the iterative process	94%	27%	56%
Using story conversations for requirements	53%	33%	28%
Delivering story development and test	67%	38%	34%
Deploying story features	67%	34%	32%

	Important	Difficult	Skilled
Promoting rapid feedback	89%	17%	45%
Gaining timely feedback	91%	25%	51%
Gaining accurate feedback	94%	39%	43%
Getting others to make quick decisions	49%	33%	45%

This table provides comparison results on the importance of the rapid feedback method, the difficulty of mastering the method, and the current skill level.

Point 6: Agile Style

The agile process makes it easy for geeks and users, but it needs to fit into your organization. Many organizations adapt an agile methodology by considering how it fits into their organization or project types. The three most popular agile process methodologies by their style are: Extreme Programming, which is socially centric; Scrum, which is engineering centric; and RUP, which is tool and management centric. Organizations can adapt the parts of each they like best.

Point 7: Rapid Feedback

Quickness and velocity are vital to an agile process that encompasses feedback. It should be rapid. It is a fact of life that you can only digest small bits of information at one time. This fits perfectly into the agile process. In order to do this you must set up a structure that everyone understands and is easily implemented, and that only looks at small accomplishments such as steppingstones.

Point 8: Retrospective

Knowing how to execute and get value from retrospectives can provide short- and long-term improvement. After each steppingstone and/or microproject the team should take a little time to look back on what things went right, what things went wrong, and what changes need to be made for the next iteration or microproject. These meetings are inward-focused feedback versus external rapid feedback. The meeting should be short and structured, with a facilitator.

Point 9: Merciless Pruning

A “clip in time saves nine,” or, when in doubt throw it out. The focus of many software development projects is to ensure completeness, when in fact it should be the opposite. Deficiencies will show up quickly and can be dealt with at the time of their exposures. Harder to surface is duplication and unused features and functions. When it comes to software development it is better to do too little than too much.

Point 10: Pipeline

Instead of doing estimates for project costs, create a pipeline of projects, features, and functions. If clairvoyance were a true science, then you could rely on traditional vehicles to estimate the cost of a project or group of projects. However, we all know this is both difficult and inaccurate. Instead of doing estimates, why not create a resource and budget pool? You most likely already have a resource pool—it is called your development staff.

AGILE METHODS

This table shows the results of the question, "In general, do you utilize agile methods to optimize migration and integration to projects?"

	Always	Most Times	Sometimes	No
Iterative process	12%	32%	48%	8%
Steppingstones	8%	29%	36%	27%
Time boxes	9%	12%	42%	37%

CASE ANALYSIS: Total Attorneys

Total Attorneys is an innovative leader in helping consumers find and match up with attorneys via the web. For years consumers had to struggle with *The Yellow Pages* and word of mouth to find and contact attorneys in their area. Total Attorneys had a vision to build an online system delivered as Software as a Service (SaaS). The initial service was designed to help consumers find bankruptcy attorneys in their area who had signed up with Total Attorneys.

The Total Attorneys' development organization began by using the traditional waterfall process, but this process was causing delays to their critical Attorney Match-up Engine. Frustrated by these delays and lack of progress, they turned to the agile Scrum method. Soon prototypes were being done and released for live testing. People began to believe in the process. It led to more than 12,000 attorneys signing up for the services. The project succeeded because they:

1. Used an iterative process
2. Used steppingstones and small, concerted deliverables
3. Used short time boxes
4. Used a flexible process
5. Had constant user interaction
6. Used the right agile style for their organization
7. Had rapid feedback
8. Had end-of-iteration retrospectives
9. Performed constant refactoring
10. Used a feature pipeline

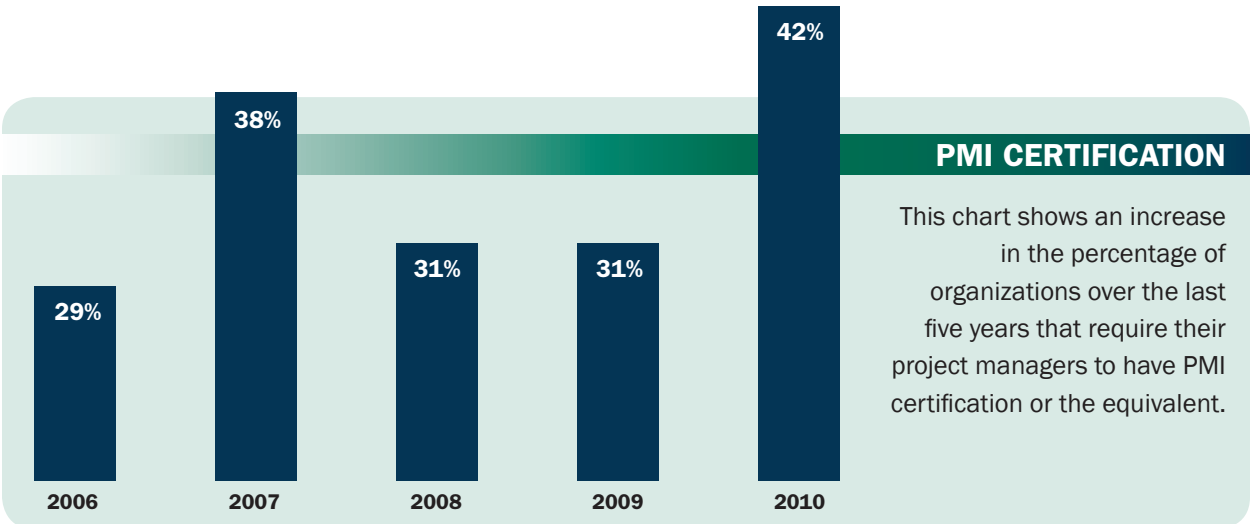
LESSON SEVEN: Project Management Expertise

Projects by their very nature are complex; it takes an empathetic organizational environment to understand the project management process in order for the team to simplify the project management practice. The real key to being a good project manager is to take the complex process and make it simple and executable. Projects follow a natural progression. The project manager's job is to administer this progression to a successful resolution. Project managers should follow some basic fundamentals outlined in the Project Management Institute's Body of Knowledge or PMBOK guide. The guide provides information to keep track of all the project management details, plans, and processes required to arrive at a successful goal.

While project managers should have basic project management skills, they also need leadership qualities to be effective. A good project manager will make and maintain connections, as they are important to the success of a project. A good project manager will promote both an individual and collective sense of ownership among the team. A good project manager will instill the sense of pride and accomplishment that comes with ownership, which will contribute to the success of a project. A good project manager will understand the business and the business process. A good project manager will increase project success, while a bad project manager will do the opposite.

Having the ability to pass judgment on issues under consideration and reach a firm decision are vital project management skills. Throughout the course of a project there are hundreds of decision points. Bad choices can lead to increased time and expense or outright failure. On the other hand, good choices can bring a project in on time and on budget. Projects need managers with good judgment and strong decision-making skills to succeed. Good judgment is an innate skill that can only be improved by education and experience. A project manager either has good judgment or does not.

THE LAW OF THE MAD HATTER: Complexity causes confusion and cost.



10 CHAOS SUCCESS POINTS FOR PROJECT MANAGEMENT EXPERTISE

Point 1: Basic

The project manager should have basic project management skills. The project manager is the project's linchpin. The IT community has recognized the true role of the project manager, the skills required to be a good project manager, and the benefits a project manager can bring to any project. Many of these key skills involve indispensable management proficiencies such as good judgment, diplomacy, and time management. They also include the basic mechanical skills of planning, tracking, and controlling.

Point 2: Base Running

Just as every Little Leaguer knows that you need to tag second before going to third, every project should follow project management fundamentals. Project development environments are a microcosm of every organization. A project is a temporary part of the organization with a mixture of people, processes, and products to produce a final product. Standish Group's research clearly shows that projects are less likely to be challenged and more likely to be more successful with a competent and skilled project manager on board.

Point 3: Details

Keep track of the details. Perhaps the most important trait project managers must have is the capacity to maintain a realistic vision for themselves, for the team, and for the entire company. Features and functions must be considered individually as well as in relation to the whole. In other words, "the devil is in the details." Planning, enacting, and tracking a series of activities to arrive at a goal are skills the project manager must maintain.

Point 4: Leadership

A project manager should be a good leader, another obvious point. In John C. Maxwell's *The 21 Irrefutable Laws of Leadership* (Nelson Business, September 1998), he contends that leadership is a learned skill. The more you learn about leadership, the better leader you will become. His basic foundation is that leadership skill determines the fundamental level of a person's effectiveness.

Maxwell argues that your leadership scope is how many people you influence.

Point 5: Connections

Project managers must be able to establish and maintain connections. Connections are defined as the multiple favorable interactions that a project manager must maintain in order to bring a project to a successful resolution. Another way to look at this is, connections are the stops on the journey that require communication. Such stakeholder communication allows you to continue on the journey to project success in the face of constant change.

BAD NEWS BEARERS

This table provides comparison results on the importance of delivering and accepting bad news. Ninety-six percent of IT executives believe gaining trust for acceptance of bad news is an important skill for project managers.

Bad News	Highly Important	Important	Somewhat Important	Not Important	Rank
Gaining trust for acceptance of bad news	46%	50%	3%	1%	2.9
Delivering solutions with the bad news	37%	41%	15%	7%	2.6
Accepting bad news	22%	58%	20%	0%	2.3
Delivering bad news quickly	18%	63%	19%	0%	2.3

BAD NEWS SKILL LEVEL

Bad News	Highly Skilled	Skilled	Moderately Skilled	Poorly Skilled	Rank
Delivering bad news quickly	0%	50%	25%	24%	2.7
Gaining trust for acceptance of bad news	1%	43%	30%	26%	2.6
Delivering solutions with the bad news	11%	31%	32%	26%	2.5
Accepting bad news	4%	40%	35%	21%	2.2

This table shows that 44% of IT executives believe that their project managers are skilled at gaining trust for acceptance of bad news, while 96% believe it is an important skill (see previous table).

Point 6: Ownership

It's important to foster the sense of pride and accomplishment that comes with ownership of a project. Promoting both an individual and a collective sense of ownership among team members will contribute to the success of a project. Ownership for the project manager is taking the responsibility of making sure that a task, steppingstone, or project is done and done well. For stakeholders, it is the effect and influence their participation has on the project resolution.

Point 7: Bad News Bearers

Deliver bad news early and bravely with solutions. In ancient times the messenger of bad news often would be executed. Project managers frequently are afraid, compelled, sometimes under duress, to deliver bad news. It is difficult to give executives and stakeholders bad news. However, there are things that you can do to ease the pain when a project manager has a message he or she believes will not be well accepted by management or stakeholders.

Point 8: Business Understanding

A grasp of basic business skills is one of the most important traits a project manager can possess. Doug Domin had been an FBI agent for most of his career when he was appointed project manager of the Integrated Automated Fingerprint Identification System. Doug felt he was not up to the job, but was told that he was the model project manager. What made Doug the model project manager was that he understood the business from the inside out.

Point 9: Judgment

The ability to pass judgment on issues under consideration and reach a firm decision are vital project management skills. Throughout the course of a project there are hundreds of decision points. Bad choices can lead to increased time and expense or outright failure. On the other hand, good choices can bring a project in on time and on budget. Good judgment is an innate skill, which can only be improved by education and experience.

Point 10: Seasoned

A project manager's experience can factor heavily into the success of a project. The best place to find a good project manager is from a project that has just failed. Failure is the best teacher. We learn more from our failures than we do from our successes. An experienced project manager will increase project success. Project managers, like other managers, often learn the hard way from their experience in the trenches and hopefully from past mistakes.

SIZE-COMPLEXITY MATRIX (SCM) FOR PROJECT MANAGER

This matrix provides a guideline on the workload for a project manager. An average senior project manager can manage a total of 475 SCM points at any one time, or the green zone. For the yellow zone, a very senior project manager is required. The red zone should be avoided and broken into manageable projects over multiple project managers. Use the size and complexity charts on page 3 to calculate points.

		COMPLEXITY				
		C1	C2	C3	C4	C5
SIZE	S1	100	250	400	550	700
	S2	175	325	475	625	775
	S3	250	400	550	700	850
	S4	325	475	625	775	925
	S5	400	550	700	850	1000

CASE ANALYSIS: FBI's Fingerprint Project

The Federal Bureau of Investigation (FBI) received more than 45,000 requests per day from federal, state, and local law enforcement agencies, armed forces, crime scene investigators, and other crime-fighting agencies to help locate missing people through their national repository of over 73 million fingerprint records. However, their system was semi-automated, labor intensive, and the technology was stagnant. The average processing time took 96 days per criminal print identification.

The solution was to create an Integrated Automated Fingerprint Identification System (IAFIS) that would be combined with a large national fingerprint database. This database would be available 24 hours a day, 365 days per year in real-time, with active lights-out operation. Through this new system, each state would be linked electronically for both inputting fingerprints and examining them online. On the third major restart the project delivered a working system at the cost of $640 million and yearly savings of over $13 billion. The project succeeded because the FBI's PM:

1. Was PMI certified and had basic PM training
2. Kept changes to a minimum, limiting scope creep
3. Had a system to keep track of all the details
4. Was not afraid to say no
5. Kept communication open and honest, but upbeat
6. Made sure everyone knew their roles and responsibilities
7. Did not sit on bad news; instead delivered it quickly
8. Had a keen understanding of the business
9. Had sound judgment and decision-making capability
10. Was a seasoned FBI field agent

LESSON EIGHT: Skilled Resources

The human resources component of "Management 101" emphasizes that the staff is your most valuable asset. Not surprisingly, one of the key project success factors identified in Standish Group's CHAOS Research is a competent staff. There are five key fundamentals to ensure staff competency. First, identify the required competencies and alternative skills. Second, provide a good, continuous training program to enhance the staff skills. Third, recruit both internally and externally to provide a balance of experiences. Fourth, provide incentive to motivate the staff. Finally, ensure the staff is project-focused. The three elements that highlight competency are match, balance, and mentoring.

Turnover is a fact of life. The longer a project goes on, the more likely a key person will leave. This could be a skilled developer or the executive sponsor. When this happens it can have devastating results and put the project in peril. The best method to combat such an event is to keep the project cycles short with continuous deliverables. The mantra of executing a project plan is communicate, communicate, and communicate. However, you need to have ears tied to brains to hear the message. The best plan will fail if you do not have skilled and competent workers in sufficient quantity to complete the tasks at hand.

Certainly a better working environment should increase productivity. And increased productivity can increase velocity of software application development steppingstones, which in turn will lead to more successful projects and systems. However, you should not confuse activity with progress. Progress is achieved through skilled and competent teamwork. Certainly the project will need a variety of resources, possibly a project executive, an administrator, technical resources, and testers. The challenge consists of properly identifying the required competencies, the required level of experience, and the expertise needed for each identifiable task. The project manager will need to understand the number of resources required with a given skill, and when these will be needed.

LAW OF THE EMPTY CHAIR:

Your best person will leave at the worst possible time.

TECHNICAL EXPERTISE

	Major Effect	Medium Effect	Minor Effect
New application package	52%	48%	0%
Business process management (BPM)	33%	52%	15%
New project design and requirements	43%	47%	10%
New application development	95%	5%	0%
Modernization projects	62%	31%	7%

This table shows the effect of technical expertise for different types of common projects.

10 CHAOS SUCCESS POINTS FOR SKILLED RESOURCES

Point 1: Competency

Successful projects need smart, trained people. The human resources component of "Management 101" emphasizes that the staff is your most valuable asset. There are five key fundamentals to ensure staff competency. First, identify the required competencies and alternative skills. Second, provide a good, continuous training program to enhance the staff skills. Third, recruit both internally and externally to provide a balance of experiences. Fourth, provide incentive to motivate the staff. Finally, ensure the staff is project-focused.

Point 2: Position

Projects are a team sport. In a team environment, everyone should know his or her place and position. In baseball, the pitchers pitch and the catchers catch. You need to assign team members to a specific task or set of tasks according to their strengths and talents. Each individual's role is essential to the overall process and they should understand the importance of their positions. There is a sequence to success.

Point 3: Motivation

The use of individual and team incentives has become a popular tool in motivating achievement of project goals or significant steppingstones. To be effective, the incentives must be meaningful and must be earned. If it is only the project leader who always gets an award, or if team awards don't take into account individual levels of contribution, the incentive program loses credibility. Everyone on the team should have an equal opportunity for recognition. It is also important to understand what motivates your staff.

Point 4: Togetherness

There is a vast difference between having a group of individuals work on a project and having teamwork on a project. Volumes have been written about the power of teams. Team-building workshops flourish. Teaming implies a codependent relationship—"all for one and one for all." Championship athletic teams are perhaps the best illustration of high-performing teams. Each person has a defined role, but all members have a common goal. Individual success is tied to collective success.

Point 5: Training

Ongoing staff training can benefit current projects and contribute to the pool of skills available for future projects. Staff development is a major issue for many IT executives and application development managers. Of particular concern is the training and competency in the never-ending flood of new technology and current technology upgrades. Training for team members should be factored into the project plan. Training should meet several objectives, such as the skills taught must be utilized on current projects.

PM'S STAFF SKILLS

PM Skill	Very Skilled
Getting the right technical people for the right work	22%
Knowledge of where and when to place and position the right team members	15%
Bestowing the proper incentives to the right people	12%
Ability to maintain teamwork	25%
Ability to maintain focused training programs needed for a project	8%
Ability to give and receive mentoring assistance	6%
Ability to create and maintain the right team chemistry	9%
Ability to deal with a toxic team member	13%
Ability to deal with turnover of key staff	5%
Ability to deal with general staff issues	14%

The results show the percentage of project managers who are skilled at dealing with staff issues.

Skills to Master	Difficult
Understanding what inspires the project team	47%
Celebrating large and small accomplishments	33%
Recognizing team member contribution – big and small	34%
Rewarding someone of outstanding effort	36%
Giving a celebration party	27%

The results show the difficulty of the staff-related skills that the executive sponsor needs to master.

Point 6: Mentoring

Good mentoring can improve project success rates. A mentor is a wise and trusted counselor to or teacher of inexperienced or novice staff. For example, an experienced project manager may teach or mentor an unproven project manager how best to solve certain issues. In the agile process developers in pairs help mentor each other on the skills. Mentors are expected to model desired behaviors and processes that enable the organization to achieve higher performance levels.

Point 7: Chemistry

Chemistry is hard to define, never mind manage. It is one of those things that you know when you have it, and it's painfully obvious when you do not have it. We have all seen enough TV programs and movies to recognize good and bad chemistry. Some actors just work better together. The same is true with project team members. Building and maintaining team chemistry is an ongoing process, which should include participation from the team.

Point 8: Toxic

As the saying goes, there is one in every crowd. You will often encounter team members who are exceptionally difficult to deal with, and you are frequently forced to work with them under stressful conditions. Knowing how to manage a toxic developer or stakeholder could be very influential to the success of a project. The project team should not let the toxic problem worsen because it is unpleasant to talk about their concerns openly and candidly. If need be, the team should remove the poison.

Point 9: Turnover

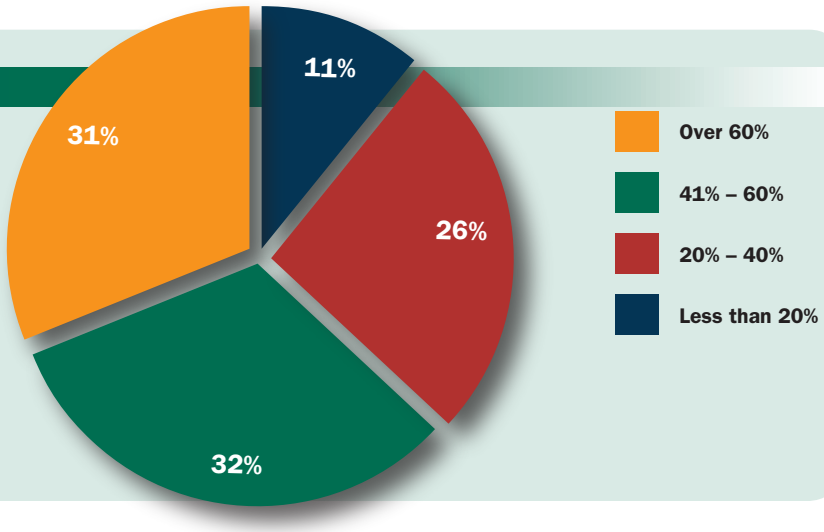
Turnover disrupts projects; keeping a team intact requires speed and good management. Turnover can wreak havoc with a project. Loss of critical talent can delay the project for weeks or even months. The learning curve of replacements can cause mistakes and errors that will have a negative impact on user acceptance. It can cause the project to fail. It is important to retain the team throughout the life of a project, if possible.

Point 10: Hot Groups

The recipe for success indicates small teams work much better and accomplish more than larger teams. These small teams range in size from two to six people. Hot groups are also small teams of the same size, but they are focused on a specific goal and a set of discrete tasks. They come together quickly, complete the task, and go back to their normal activity. They may be brought together to write a specific algorithm, database function, or web process.

QUALITY STAFF

The results show the opinion of IT executives regarding what percentage of a project's success is directly attributable to the retention of a quality technical staff.



CASE ANALYSIS: First USA Bank's Internet Banking System

First USA Bank's customers wanted access to their banking records using the Internet with 24x7 availability. In addition, the bank needed to reduce their transaction cost. The solution was to quickly build an Internet banking solution that would give customers access to their accounts. The plan was to complete the project within five months. The dates were driven by the business need. The project's staff would need to work nights and weekends to complete their goal.

The bank had a clear vision and focused on minimal requirements. They did not believe that they managed expectations and milestones very well. The company learned from other pioneers and picked out the things that worked for them and discarded the things that did not. They got users involved in the beginning and kept them involved in the project as it progressed. The project was challenged, but they could have done better had they:

1. Built a team with skills that matched the project requirements
2. Done a better job managing the staff positions on the project
3. Built a realistic project plan limiting nights and weekends
4. Had developers work in pairs or a team
5. Had staff trained on the products
6. Built mentoring time into project planning
7. Paid close attention to how team members interacted
8. Dealt quickly with toxic members
9. Built the project distributing incentives tied to specific goals
10. Created a hot group

LESSON NINE: Execution

Execution is the act of taking a project to completion based on a plan. Execution is using the project team's leadership skills and project management experience to create a positive outcome. Execution combines financial management with a formal methodology, with the idea that the team needs to provide guidance and promote progress. But all too often the methodology gets in the way of progress and is structured to keep the project team in a comfort zone. However, progress often means that the project team and their sponsors need to get out of their comfort zone and take on risk.

In our zoo workshop, the panda bear represents high risk and high reward. When participants are asked to focus on gain, the panda bear is always part of the solution. When participants are asked to focus on risk, the panda is always left out of the zoo. However, when participants are asked to consider both risk and gain, the results are mixed, but more often the panda is part of the solution. In real life few projects have true panda bears. But when they do come about, they need to be embraced and nurtured. Risk is part of every project, but unnecessary risk should be avoided.

While the three pillars of project management are time, cost, and functionality, the key to project success is getting things done efficiently and correctly. Execution is not just simply getting the job done with the least possible resources. Execution is understanding the process, rules, governance, and compliance, but not letting them stand in the way of progress and completing the project. While rules, process, governance, and compliance are valuable, they do add burden to the process and take effort. Too much of a good thing is a recipe to turn it into a bad thing. If the team expends efforts to remove all risks, then the project has most likely already failed.

PANDA'S LAW: Inaction is the purest form of failure.

SETTING A BUDGET

The results show there is no dominant method for how the majority of project budgets get set. Although the highest percentage (37%) shows the executive sponsor sets the budget with collaboration from the project team, this number has decreased over the last few years.

WHO SETS THE PROJECT BUDGET	
Key executive sponsor sets the budget with project team	37%
All stakeholders are involved in the budget	31%
The CFO sets the limit on the budget	17%
Other	8%
Users set the budget with the project team	7%

10 CHAOS SUCCESS POINTS FOR EXECUTION

Point 1: Rules

Rules give the project team a clear idea of a project's priorities. Rules help the team know they are doing the right things. Not knowing or having rules creates significant challenges for those responsible for building new products and maintaining the existing infrastructure. Rules give the team a clear idea of the organization's strategy and how the technology impacts that strategy. Rules streamline the development and business process. The organization needs rules of engagement.

Point 2: Problem Statement

Every project plan must have a problem statement, ensuring that everyone is trying to solve the same problem. A complete problem statement with which the stakeholder community can identify will have the following attributes: The problem statement should be written in business terms and be tied to a business process. The problem statement should have a definition of the business problem. The problem statement should address root causes and not just symptoms of the problem.

Point 3: Formal Requirements

All project methodologies should include a formal process of gathering and maintaining requirements. Requirements management is the process of identifying, documenting, communicating, tracking, and managing project requirements, as well as changes to those requirements. It is not a single point in time occurrence, but rather must be an ongoing process that stays in lockstep with the development process, especially iterative and agile development. Losing sight of requirements is often the first step on the road to failure.

Point 4: Breakeven

Project managers need to find the breakeven point. This is the point at which savings and gains equal the total cost or budget. The point is located by breakeven analysis, which determines what costs will be covered. All savings or increases over the breakeven point produce profits; any drop in gains or savings below that point will produce losses. Any delays and cost increases will be a direct decrease in the return on investment and push out the breakeven point.

Point 5: Change

Managing change is key to managing projects. The inability to do this well is almost always a major contributor to failure. Change management is all about setting realistic expectations. The importance of this critical factor cannot be understated. Almost nothing can cause a misalignment between expectations and deliverables more quickly than a failure to manage change. A change to any of these elements causes changes in the project, and while change is inevitable, a successful outcome is not!

MASTERING EXECUTION SKILLS

The results show the opinion of IT executives when asked to the rate how difficult is it for their project executive sponsors to master skills in project execution.

	Very Difficult	Difficult	Somewhat Difficult	Not Difficult
Understanding the basics of the metrics	15%	23%	35%	27%
Encouraging the use of the project's ROI and risk metrics	17%	35%	38%	10%
Understanding of the project tracking system	11%	36%	43%	10%
Financially managing changes to the project	25%	31%	29%	15%
Understanding of the project activities	7%	37%	43%	13%

	IMPORTANT
General procedures	72%
Best practices	83%
Process improvement	90%
Adaptability	82%

The results show the opinion of IT executives when asked to rate the importance of project compliance and governance skills.

Point 6: Making Tea

Consider the use of analogies to improve communication between users and developers. An analogy is the process of transferring information from a particular subject to another particular subject by drawing a comparison in the form of a story or example. Project managers can use analogies to clarify or illuminate a difficult or unfamiliar concept by comparing something known to the stakeholder to the new concept. Analogies and metaphors provide a useful tool for the project manager to translate requirements.

Point 7: Net Value Analysis

Instead of looking at the project's earned value, take a look at the net value. Earned value management (EVM) is a popular method used by project managers to judge whether their projects are going well. EVM provides a rough measure of progress forward and signals whether the project is running late or over budget. But earned value management does not deal with the most important aspect of a project, and that's the net value to business goals.

Point 8: PMO

A PMO is a dedicated section of the organization that focuses on various aspects of project management and/or methodology. The duties of a PMO vary and often grow with the maturity of the organization. Some PMOs are focused on project scheduling or methodology, while other PMOs serve as a center of excellence. Others have large staffs that are deeply involved in all phases of the project, from planning through deployment.

Point 9: Gate Keeping

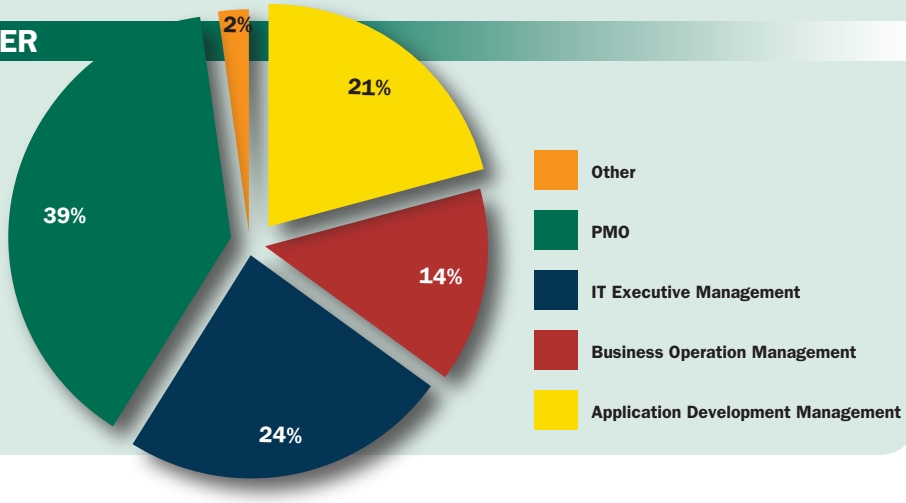
A gating system is a method for moving projects from an idea to implementation. It divides the effort into distinct stages separated by management decision gates (gate keeping). The project teams must successfully complete a prescribed set of related activities in each stage prior to obtaining management approval to proceed to the next stage or gate of the project. In many cases the team must get a peer review to secure management's approval.

Point 10: Lipstick

It's important to express the benefits of a project in the best possible financial light. First, you must know your company's investment policy. For example, there is no universal standard for ROI or any agreed-upon mathematical formula. Many companies have their own standard policies. Many of these policies do include quasi-standard formulas, such as net present value (NPV), return on assets (ROA), return on equity (ROE), economic value add (EVA), and earnings per share (EPS).

PORTFOLIO MANAGER

While having the PMO manage the project portfolio is the highest percentage response here, it is not a majority. Over 60% of the organizations have other groups manage the project portfolio.



CASE ANALYSIS: Owens & Minor's ERP Project

Owens & Minor is one of the leading suppliers of acute-care medical and surgical products for the healthcare industry. In the early 1980s, Owens & Minor purchased a distribution software package to run on a standard IBM mainframe infrastructure. However, by the mid-2000s the system needed a major overhaul. For example, a customer representative may have needed to look through a dozen green screens just to find a simple answer for a client.

Owens & Minor decided to modernize the application and run it on commodity hardware and software. The project took three years and cost $9 million. Owens & Minor reduced their operating costs by $6 million with an 18-month payback. More importantly, customer service could provide answers in one screen and other users readily accepted the new system as they were not impacted and required no training. The project succeeded because they:

1. Created clear rules of engagement
2. Had an understandable problem statement
3. Had formal requirements
4. Knew their breakeven point
5. Managed to keep change to a minimum
6. Established a common language with users
7. Focused on business values, not technology
8. Had good project management mechanics
9. Had a commitment of key roles and responsibilities
10. Had clearly communicated the benefits

LESSON TEN: Tools and Infrastructure

Tools are the last success factor, and for good reason. Tools can both help and hurt the organization. In fact, all too often the organization focuses on and puts too much effort and reliance on tools that it believes will give it the ability to manage projects to a successful conclusion. Our research shows that many tools, especially the enterprise type, have a worse success rate than their lighter-weight counterparts or the average in general. There are many reasons for this. First, the tools themselves add time and effort that do not contribute to progress. Second, this takes away from more important efforts such as the top three: user involvement, executive sponsor and clear business requirements.

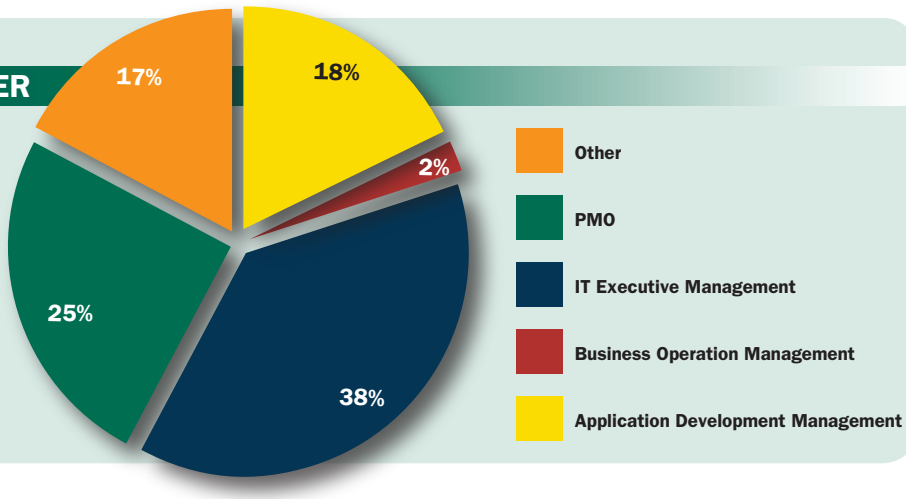
Tools need to help the organization move the project forward. Tools that help the project team to collaborate with all project contributors and stakeholders are the most useful. They can point out weaknesses and tension points, determine priority, as well as identify potential setbacks before they become insurmountable. They can give you the power to communicate. The purpose of any tool should be to support the project management process. However, the organization should realize tools do not control an individual project's outcome. Years ago in a focus group, one of the participants said, "A fool with a tool is still a fool."

Arguably the most important item in this lesson is standard infrastructure. Standard infrastructure is having a limited number of IT components throughout the organization to increase education, competency, and familiarity. The infrastructure must meet the need of the application and business process, so an organization may have multiple sets of components for different types of activities, but they are generally vertically specified. The vertically specified components will include such products as server, database, and middleware. There are also horizontal standard infrastructure components such as a management system, storage solutions, and network appliances.

LAW OF THE FOOLS: A fool with a tool is still a fool.

PM TOOLS MANAGER

In 38% of the organizations surveyed, IT executive management controls the selection and use of project management tools.



10 CHAOS SUCCESS POINTS FOR TOOLS AND INFRASTRUCTURE

Point 1: Toolkit

If clothes make the person, tools and infrastructure make the project. A toolkit in this context is a set of software applications used by the project team to manage and track the progress of a project or projects. The toolkit can include project management, portfolio management, requirements management, change management, and optimization tools. The tools may or may not be integrated. Tools used for communication among all the stakeholders, such as executive sponsors, can provide a huge advantage.

Point 2: Vocabulary

A common and agreed-upon vocabulary should be part of every toolkit. Vocabulary is a collection of words and phrases that are defined and have meaning. It is a sum or stock of words employed by a language, group, individual, or work, or in a field of knowledge. Having a common vocabulary of words, phrases, and acronyms within an organization promotes good communication.

Point 3: Impact Tools

Impact means the power to make a strong, immediate impression or improvement. A tool is something that aids in accomplishing a task. Therefore, impact tools are things that make a strong impression and/or improvement in accomplishing a task or a project. A requirements management tool needs to be at the top of the shopping list for any firm involved in developing software applications. This type of tool can be used to outline the understanding of the business problem.

Point 4: Changes

Project changes are inevitable, but change management tools can help you keep change under control. When you start a software development project, one thing you can be sure of is that the code is going to change and change and change again. User feedback, new or altered features, and bugs all trigger updates. If the software hits its target there will be fresh changes for new versions. In active software and mission-critical applications, changes are a never-ending cycle.

Point 5: Collaboration Services

Collaboration services, such as WebEx, are great tools for managing projects. WebEx can provide communication, demonstration, education, and support services no matter where you are in the world. To the meeting participant, the WebEx interface appears as a simple, easy-to-use menu of meeting options. From conference calls to presentations and sharing applications, a host of different information-sharing capabilities are available and easy to access. However, underneath these simple screens lies a web-based, real-time communications infrastructure.

PM TOOLS AND INFRASTRUCTURE SKILLS

	HIghly Skilled	Poorly Skilled
Using project tools such as MS Project or Primavera	24%	18%
Creating and using a common vocabulary	4%	43%
Use of requirement tools such as Doors	3%	37%
Ability to use change management tools	10%	11%
Using Web-based collaboration products, such as WebEx	12%	7%
Use of automatic testing, QA, and inspection tools and services	7%	20%
Promote the use of a standardized software infrastructure	15%	7%
Finding and using trustworthy vendors	13%	19%
Finding and using open source components	14%	21%
Use of a requirements optimization tool	5%	35%

The table shows the current state of project managers' tools and infrastructure skills.

	Change Management Tools	Application Development Tools	Enterprise Architecture
Application development management	18%	58%	18%
Business operation management	11%	0%	7%
IT executive management	48%	26%	55%
PMO	6%	0%	2%
Other	17%	16%	18%

The table shows that IT executives wield control over most tools and infrastructure.

Point 6: QA Tools and Services

QA tools and service are a means of testing and analysis to ensure that quality is achieved and ensured through specification review, analysis, testing and validation, and certification procedures. The QA function needs to be built into the project and be continuous. Far too often the QA process is left to the end of the project when the budget is exhausted and the team cuts corners on quality. Code inspection services that provide overnight analysis improve quality.

Point 7: Software Infrastructure

A standardized software infrastructure can be a powerful tool for project teams. Having the same set of IT components throughout the organization makes it simpler to manage. You may have multiple sets of components for different types of activities, but they are generally vertically specified. The vertically specified components will include such products as server type, database, and middleware. There are also horizontal standard infrastructure components such as a management system, storage solutions, and network appliances.

Point 8: Vendors

Remember the old adage, “You can tell a vendor is lying when his lips are moving.” It is a funny and cute way of pointing out a serious problem. The project team needs to find trustworthy vendors for a successful resolution. An IT vendor is an organization that sells and provides hardware, software, and/or professional services. Trustworthy means being worthy of being given the required responsibility to accomplish a task or project.

Point 9: Open Source

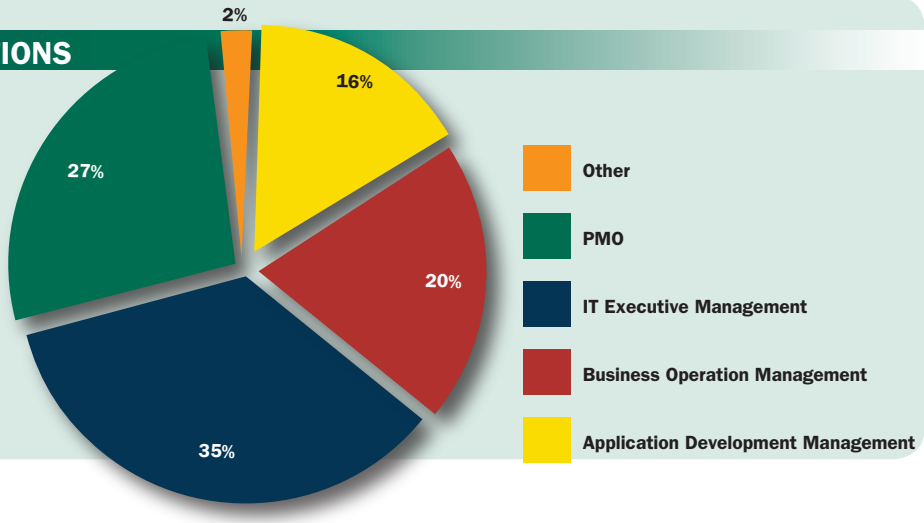
Don’t reinvent the wheel. Open source is any program where the source code is made available for use or modification by users or other developers without a cost or fee. Open source software is developed as a public or group domain collaboration and made freely available. Open source software must meet the 10 conditions laid out by the Open Source Initiative to be considered open source. Using open source, an organization should be able to reduce its software expenditures by 25% or more.

Point 10: Optimizing

There is never enough time or money to do everything. The scope of efforts must be contained to the available time and resources. Determining how much can be accomplished realistically within the available time frame and budget always presents a challenge. The three elements that the project team needs to consider for each feature or function are cost, risk, and gain. The Standish Group’s OptiMix service helps the project team focus on these three elements.

PROJECT RESOLUTIONS

The chart shows that in 35% of respondents' organizations, IT executive management monitors and evaluates project outcomes.



CASE ANALYSIS: Mirage Integrated Hotel and Casino Project

The Bellagio in Las Vegas was only a few months from opening. Steven Wynn wanted to replace the aging hotel reservation system. He also wanted the hotel reservation system to be fully integrated with a new advanced gaming application. A few years prior to the opening of the Bellagio, Mirage Resorts, Inc., started on the new integrated hotel and casino project. The new application would be state-of-the-art using the latest in commodity hardware and software. Mirage used advanced waterfall project management techniques and tools.

The project suffered from constant changes and increased scope. The underlying software infrastructure and development tools, while state-of-the-art, were immature. The infrastructure and development software were fraught with bugs, documentation errors, and diminished functionality. The project languished and was restarted a couple of times. However, no one spoke for the user, and in the end the product was unusable. The project failed, but they would have had a better chance of success had they:

1. Had a comprehensive project management toolkit
2. Established a common vocabulary between techies and users
3. Used a requirements management tool
4. Used change management tools
5. Used online collaboration services
6. Used automatic testing tools
7. Used a mature standard infrastructure
8. Enlisted trustworthy vendors
9. Used open source components
10. Optimized the requirements

FACTORS OF SUCCESS

User Involvement
While user participation has a major effect on project resolution, the average organization is only moderately skilled. Organizations that are skilled at this best practice have better results.

Executive Management Support
This is done poorly by most organizations. However, little effort is focused on the executive sponsors to improve their skills. IT offers little help to improve this area.

Clear Business Objectives
The project must be aligned to the organization's goals and strategy. However, the average organization is only moderately skilled at this best practice. Organizations that have high scores in this best practice also have higher success rates.

FACTORS OF SUCCESS	LEVEL
User involvement	Moderately
Executive management support	Poorly
Clear business objectives	Moderately
Emotional maturity	Poorly
Optimization	Skilled
Agile process	Moderately
Project management expertise	Skilled
Skilled resources	Skilled
Execution	Moderately
Tools and infrastructure	Skilled

Emotional Maturity
Projects get resolved within the ecosystem; a healthy ecosystem produces more successful projects. This is another area of considerable weakness, with the average organization doing poorly in this best practice.

Optimization
During the last few years IT organizations have made considerable investments to improve their best practice in optimization. This is the reason that the average organization is now skilled in optimization.

Agile Process
This is a bifurcation. The organizations that have adopted the agile process continue to get better, and many have reached highly skilled. On the other hand, those that have not adopted agile score poorly, thus the average is moderately skilled.

Project Management Expertise
This is an area of strength. The average organization scores well (skilled) in this best practice. The reason is the standards that come from PM education and certification from the Project Management Institute.

Skilled Resources
The reason project success rates are increasing is the quality of the people. IT organizations have been investing to improve the skills of the worker. The average score for skilled resources is skilled.

Execution
Getting this right is one of the hardest areas for IT. Many organizations have invested too much and have gone overboard. Compliance and governance must be in balance to be effective. The average score is moderate.

Tools and Infrastructure
This is another area of strength, with a high skilled score (almost to very skilled). However, like execution, too much reliance on tools can backfire and overburden a project.

The first five success factors account for 73% of the score, but the average score is less than 25 points. The last five success factors account for 27% of the score. A perfect score in these factors will only produce a score of just over 50%.

Size and Resolution

This is the first time in the history of the CHAOS Research project that large projects (S5 type) have enjoyed a whole percentage number. Two percent of all successful projects are large (S5) projects. When segmenting out large (S5) projects by themselves, 7% of those large projects are successful. This is up from 2% in the 2008 study. The Standish Group believes this increase in success for large (S5) projects is the direct result of improved processes and project management expertise. It should be noted, however, that in reviewing these S5 projects that they were C1 and C2 on the complexity scale.

The Resolution by Size table depicts the breakdown of the size/cost by the project resolution. Please note the project cost row adds up to 100%. The chart shows that 73% of projects under $1 million in cost are successful. The results also show that only 3% of projects under $1 million fail. The chart shows that 36% of projects costing $3 million to $6 million fail.

RESOLUTION BY SIZE

	Successful	Challenged	Failed	
Over $10M	7%	49%	44%	100%
$6M to $10M	16%	50%	34%	100%
$3M to $6M	15%	49%	36%	100%
$1M to $3M	34%	52%	14%	100%
Under $1M	73%	24%	3%	100%

The Project Size by Resolution table depicts the breakdown of the project by the size resolution. Please note the resolution type column adds up to 100%. The chart shows that 63% of successful projects are under $1 million in labor cost. It also shows that 2% of successful projects are over $10 million. The chart also shows that 39% of failed projects range from $3 million to $6 million in cost.

The size breakdown data was used to create the size portion of the Size-Complexity Matrix. The key to this chart is reliable estimates. Role models help provide gross estimates. Other methods rely on detailed specification. In combination with each other they can provide reasonable accuracy. Accurate estimates require role models, profiling, and detailed cost analysis. A poor estimate can easily move what should have been an S4 project into an S3, thus giving a false indicator of risk. On the other hand, a pessimistic estimate can cause the organization to pass on a viable and worthwhile project. It also should be noted that size is one-third of the Size-Complexity Score. Complexity is two-thirds.

PROJECT SIZE BY RESOLUTION

	Successful	Challenged	Failed
Over $10M	2%	10%	17%
$6M to $10M	7%	19%	26%
$3M to $6M	9%	27%	39%
$1M to $3M	19%	26%	14%
Under $1M	63%	18%	4%
	100%	100%	100%

Complexity Scores

Complexity accounts for two-thirds of the Size-Complexity Matrix. While size is often an indicator of complexity, complexity itself is generally the real villain in project failure. During the last few years The Standish Group set out to define complexity in ways that can be measured, or at least provide a rough guideline. We have created this simple table to calculate complexity on two tables of five different items as presented on page 3. In developing this table we used a subset of the CHAOS database and coded them by complexity. We then did a series of interviews and focus groups on complexity. Finally, we asked IT executives to rate the effect on items we discovered in our complexity research.

COMPLEXITY EFFECT

	Very Little Effect	Little Effect	Average Effect	Major Effect	Very Major Effect
Breaking new ground	4%	8%	36%	38%	14%
Fuzzy or undefined requirements	4%	7%	24%	42%	23%
Multiple team locations	3%	18%	40%	34%	6%
Multiple stakeholder locations	9%	13%	42%	33%	3%
Diverse uses and objectives	0%	23%	31%	42%	5%
Uncooperative stakeholders	0%	8%	13%	53%	26%
Uncooperative peers	0%	11%	19%	31%	38%

In the Complexity Effect table we see that 52% of IT executives think breaking new ground has a major to a very major effect on project success. Sixty-five percent of IT executives think that fuzzy or undefined requirements have a major to a very major effect on the success of a project. Seventy percent of IT executives believe uncooperative peers have a major to a very major effect on complexity. The big item that adds to complexity is uncooperative stakeholders, with 80% of IT executives saying they have a major to a very major effect on added complexity. Both the Complexity table and the Complexity Effect table can be used as guidelines for input into the Size-Complexity Matrix.

By positioning the project in the appropriate box in the matrix we can understand the project from a risk and environmental effort point of view. The higher the score, the greater the risk and resources. The green boxes indicate lower risk and resources. Yellow boxes indicate medium risk and resources. The red boxes indicate high risk and resources. The larger and more complex the project, the more environmental resources will be required. These environmental resources include users, executives, and other stakeholders. Red-box projects should either be broken up or avoided. Organizations that go forward with high-score projects need to match these projects with high-skilled staff.

SIZE-COMPLEXITY MATRIX

		COMPLEXITY				
		C1	C2	C3	C4	C5
SIZE	S1	100	250	400	550	700
	S2	175	325	475	625	775
	S3	250	400	550	700	850
	S4	325	475	625	775	925
	S5	400	550	700	850	1000

IN SUMMARY

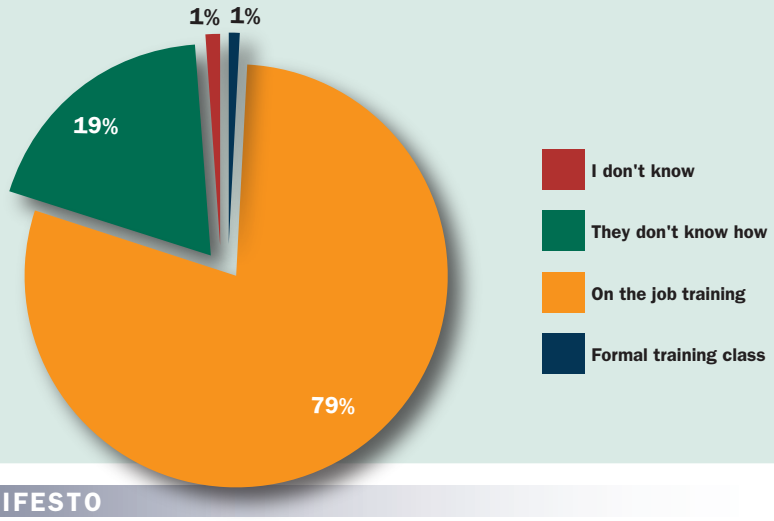
Leonardo da Vinci is best known for his paintings of the *Mona Lisa* and *The Last Supper*. His illustration of the *Vitruvian Man* is a modern-day cultural icon sported on T-shirts, book covers, billboards, and European currency. However, anyone who has visited the exhibition "da Vinci the Genius" will be amazed at his accomplishments, such as inventing the models for modern tanks, helicopters, and submarines. His works on the anatomy paved the way for modern medicine. His works on civil engineering are the basics for today's skyscrapers and highways. His labor spanned the study of optics, hydrodynamics, mathematics, and, of course, art. His notebooks document his thinking and inventions, giving researchers and scientists a wealth of knowledge and great thinking.

The lessons from da Vinci on the project management environment are one of his most important contributions. He knew how to channel creative thinking and innovation for improving project delivery and value. Da Vinci had seven principles that fit right into today's project management process, such as having conversations and trying to ask the right questions. A project team then puts the answers to work and demonstrates the results in a business sense. The team turns uncertainty into opportunity by focusing on high-value items, thus striking a profitable balance and continuing to integrate their success through the iterative process and feature velocity. Finally, the team makes the breakthrough connection by focusing on real user needs and demonstrating value.

The 2010 CHAOS results show a major increase in project success rates because of the agile process, the change of project mix, and project management expertise. Results could further improve with a focus on decision-making optimization, and not overburdening the project with compliance and governance, but rather having just the right amount. Executive sponsorship improvement is the single most important area that will increase project success. The Standish Group has identified the 50 skills needed to be a good executive sponsor and has the ability to test and instruct executive sponsors on their needed skills. More importantly, organizations need to make the executives responsible for the success and failure of projects and programs.

EXECUTIVE SPONSOR EDUCATION

The question asks IT executives, "How do your executive sponsors know how to be executive sponsors?"



RAPID PERFORMANCE MEASUREMENT:
YOUR ROADMAP TO IMPROVED PROJECT DELIVERY

BENCHMARK OF PROJECT DELIVERY • PROJECT DELIVERY STRENGTHS • PROJECT DELIVERY WEAKNESSES • OBSERVATIONS AND RECOMMENDATIONS • RAPID AND EASY PROCESS

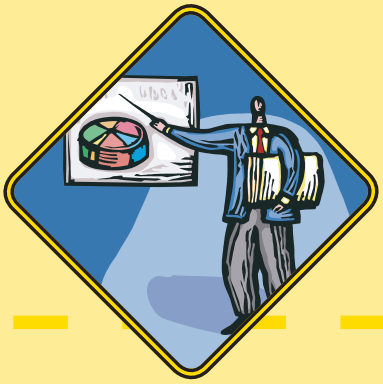
There have been numerous attempts

to improve project delivery. In many of these cases organizations have seen improvement, only to fall back into the same old habits. Other attempts have produced little to no improvement. In fact, our latest CHAOS results show a decrease in project success rates. We believe that organizations are measuring the wrong things, or at a minimum, not enough of the right things. One of the reasons is because your organization and project mix are unique! Our benchmark is unique because we can measure your unique projects and your project mix against our database—unlike other benchmarks that try to match industry, project size, company size, or other less relevant metrics. We review more than 20 attributes of your individual project and 100 attributes of your project delivery skills to provide you with the most accurate benchmark in all of the IT industry.

Your organization and project mix are unique! Our benchmark is unique...

Your 25-100 projects & assessments

Match our 80,000 projects & 1,000 organizations



We create a report & recommendations

RAPID

BENCHMARK OF PROJECT DELIVERY • PROJECT DELIVERY STRENGTHS • PROJECT DELIVERY WEAKNESSES • OBSERVATIONS AND RECOMMENDATIONS • RAPID AND EASY PROCESS

Rapid Performance Measurement (RPM)

is the fastest way to benchmark and assess your project delivery skills. The process is done in the privacy of your offices; it is completely virtual and asynchronous, with minimal disruption to and effort for your organization. RPM looks at all the critical CHAOS Success Factors and project best practices within your project delivery organization. From this engagement, you will learn your overall success rates as they compare to 80,000 projects and 1,000 organizations with a similar project mix.

From this engagement, you will learn your overall success rates as they compare to 80,000 projects and 1,000 organizations with a similar project mix.

STEP 1
You provide us with 25-35 of your project manager's names with 3-4 of their projects. You notify these project managers that they will be getting a message from us to complete a project profile and assessment.

STEP 2
We send out emails to your PMs to fill out the project profiles & assessment.

STEP 3
Your PMs complete the project profiles & assessment. It should take them about an hour to fill out the profile and assessment.

STEP 4
We make follow-up calls to the PMs and the executive sponsors.

STEP 5
We do the analysis, develop a presentation, and write a report.

STEP 6
You listen to the presentation and then read the report and decide.

This process is done in the privacy of your offices; it is completely virtual and asynchronous, with minimal disruption to and effort for your organization.

PERFORMANCE

BENCHMARK OF PROJECT DELIVERY • PROJECT DELIVERY STRENGTHS • PROJECT DELIVERY WEAKNESSES • OBSERVATIONS AND RECOMMENDATIONS • RAPID AND EASY PROCESS

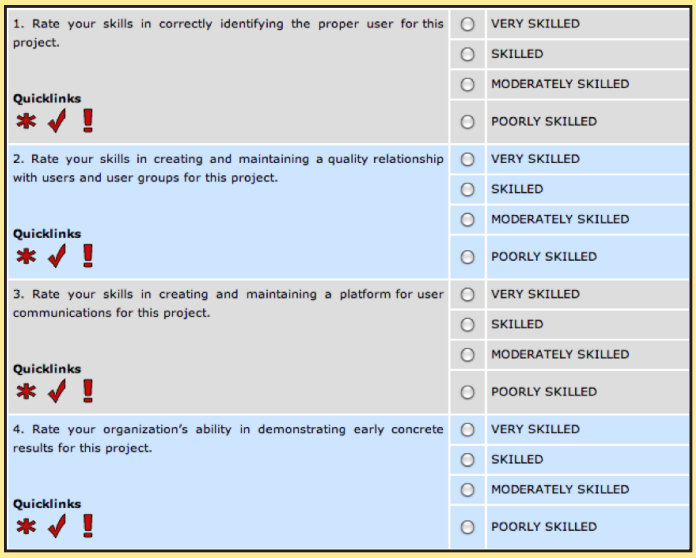
The benchmark forms are simple fill-ins, drop downs, and check boxes that cover the CHAOS profiles and 100 best practices. There are no meetings, artifacts, very little investigation, and no preparation. From this simple process, you will learn which attributes give you the greatest success and which attributes are your project delivery organization's greatest stress points. RPM also covers time and cost overrun percentages and feature deficiency rates. The output is a custom report for you that will cover the CHAOS Success Factors and best practices.

You will learn what attributes give you the greatest success and which attributes are your project delivery organization's greatest stress points.

The custom report includes:

1. Success rate comparison,
2. Time overrun comparison,
3. Cost overrun comparison,
4. ROI comparison,
5. Common success factors, and
6. Common stress factors.

The report also includes general observations and recommendations.



1. Rate your skills in correctly identifying the proper user for this project. Quicklinks * ✓ !	○	VERY SKILLED
	○	SKILLED
	○	MODERATELY SKILLED
	○	POORLY SKILLED
2. Rate your skills in creating and maintaining a quality relationship with users and user groups for this project. Quicklinks * ✓ !	○	VERY SKILLED
	○	SKILLED
	○	MODERATELY SKILLED
	○	POORLY SKILLED
3. Rate your skills in creating and maintaining a platform for user communications for this project. Quicklinks * ✓ !	○	VERY SKILLED
	○	SKILLED
	○	MODERATELY SKILLED
	○	POORLY SKILLED
4. Rate your organization's ability in demonstrating early concrete results for this project. Quicklinks * ✓ !	○	VERY SKILLED
	○	SKILLED
	○	MODERATELY SKILLED
	○	POORLY SKILLED

MEASUREMENT

BENCHMARK OF PROJECT DELIVERY • PROJECT DELIVERY STRENGTHS • PROJECT DELIVERY WEAKNESSES • OBSERVATIONS AND RECOMMENDATIONS • RAPID AND EASY PROCESS

The RPM process will produce three recommendations that will be easy to implement and cause minimal disruption to your organization. Our mission through our CHAOS research is to make you, the IT professional, more successful, and to help you show the value of your IT investments. The Standish Group offers the opportunity for your organization to improve its project delivery through Rapid Performance Measurement. For the last 16 years, The Standish Group has been the leading provider of project management research and reporting. These 16 years of cumulative CHAOS research encompass more than 80,000 completed IT projects across 1,000 organizations.

The RPM process will produce three recommendations that will be easy to implement and cause minimal disruption to your organization.

To get on the road to improved project delivery call:

THE STANDISH GROUP
60 State St, Suite 700 • Boston, MA 02109
508-760-3600 Ext: 27 • sales@standishgroup.com

- Success rate comparison
- Time overrun comparison
- ROI comparison
- Common success factors
- Common stress factors
- General observations
- Recommendations