

Go Small for Project Success ¹

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Abstract

Large amounts of projects fail to be completed on time and on budget every year. Based off statistics reported by organizations such as the Project Management Institute, trends are not showing any big improvements in these areas. As new project success measures are being discussed, the projects failing to be complete within the traditional constraints continue to hamper major corporations, government agencies and global business. During review of many of these surveys the correlation between project size and project failure is evident. Specifically to IT projects, different methodologies do not provide a large enough benefit to combat the challenges of increased project size. As large projects continue to face performance issues, project managers can relate project size to increases in severity and frequency of many common project challenges.

Introduction

The amount of studies and surveys conducted every year on project management failures is plentiful. Many of these statistics show the high number of projects that ultimately are delivered late and over budget while providing some of the drivers behind these failures. As you read through these various studies one can quickly correlate many of these issues back to a single variable in the project and that is project size. When speaking about large and small projects factors discussed are complexity, durations and costs. As more and more projects are utilizing methodologies to deliver fast business value identifying project success is consistently being discussed.

Companies are frequently being challenged with overcoming the after effects of failed project delivery. This paper will utilize the findings from specific Project Management studies such as the Standish Group CHAOS report to illustrate the correlation between project size and failure. The common drivers of project failure will be identified and discussed in terms of project size.

¹ *Editor's note: Student papers are authored by graduate or undergraduate students based on coursework at accredited universities or training programs. This paper was prepared during the author's enrollment in a Master of Business Administration (MBA) degree program at St. Joseph's College in Patchogue, New York, USA.*

Project Success Criteria

Project success can and will be defined by the client or company embarking on a project to enhance their business. As the agile methods is extremely prevalent in the software development industry, business value and speed to market have been tagged as the measure of success while traditional constraints are thought to have some flexibility. Other concepts believe if the long-term benefits outweigh the cost then the project is a success (Nicholas & Hidding, 2010). However, when large-scale projects fail the delays in schedule and enormous cost overruns lead to the heartache many companies deal with when the smoke has cleared.

Many people in the industry are familiar with the term “Black Swan”, which was brought to light by Alexander Budzier and Bent Flyvbjerg in their study published in a 2011 Harvard Business Review. The term refers to massive IT projects that overrun their budgets up to 200% (Flyvbjerg & Budzier, 2011). Large software implementations can usually be found in the form of Enterprise Resource Planning (ERP) solutions. The project between North American environmental solutions provider Waste Management and software vendor & integrator SAP come to mind over their botched ERP implementation. The project was a complete failure, which ultimately lead to a 500 million dollar lawsuit and ultimate settlement between both parties (Kanaracus, 2010). Although business value is the ultimate goal, measures of a projects success needs to acknowledge the triple constraints. Again many of the statistics and surveys produced by consulting and management firms bring us back to cost, time and scope.

The Harsh Truth of Project Failures

There are many surveys conducted every year on the state of project management. Many of these surveys are conducted globally and cross industry lines to give an overall view of the rate of project successes and drivers of project failure. As a client these numbers look alarming but as project managers these figures seem to accurately reflect many projects we are involved with. PMI’s Pulse of the Profession broadly shows a snapshot of the project management industry. A diverse population of over 3,000 professionals spanning different industries drives the statistics.

The chart below shows that since 2011 projects on average have been completed on time and on budget less than 60% of the time.

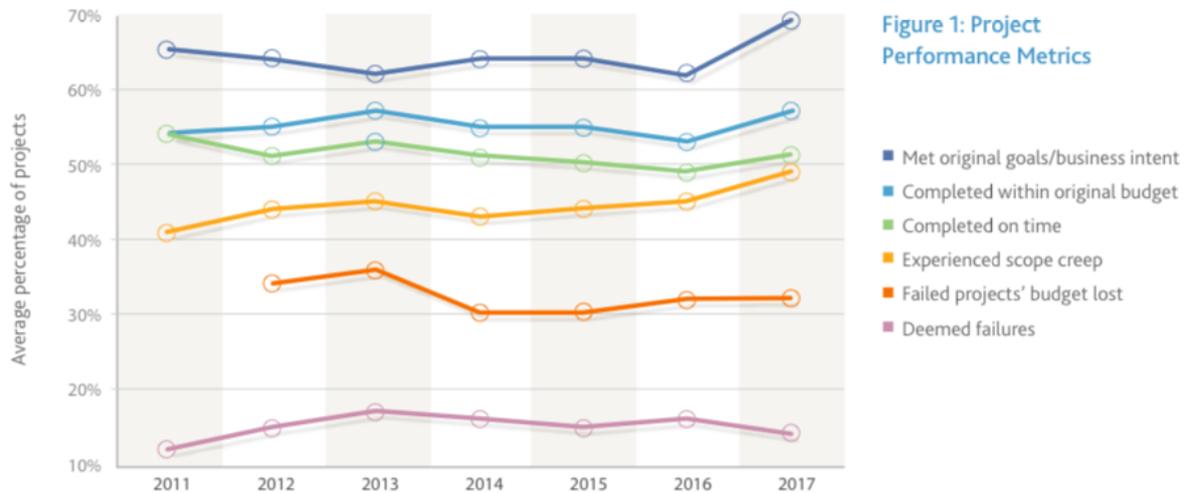


Figure 1: Project Performance Metrics. Reprinted from PMI's *Pulse of the Profession 9th Global Project Management Survey*, by Project Management Institute, 2017, retrieved from <https://www.pmi.org/-/media/pmi/documents/public/pdf/learning/thought-leadership/pulse/pulse-of-the-profession-2017.pdf> Copyright 2017 by Project Management Institute

PMI has addressed the changing in criteria that deem a project successful and the realization of business value is noted as the key measure. However, with budget and schedule delays on over 40% of projects many companies will face huge complications when dealing with the after effects.

The Standish Group CHAOS Report is produced by the Standish Group and provides statistics from the software development industry. With thousands of projects studied the report provides a view into software development successes and failures. The below table taken from the report can be used to show the benefits of utilizing agile methodologies over traditional waterfall methods, but the real eye opener is derived from the correlation between project size and success.

SIZE	METHOD	SUCCESSFUL	CHALLENGED	FAILED
All Size	Agile	39%	52%	9%
	Waterfall	11%	60%	29%
Large Size Projects	Agile	18%	59%	23%
	Waterfall	3%	55%	42%
Medium Size Projects	Agile	27%	62%	11%
	Waterfall	7%	68%	25%
Small Size Projects	Agile	58%	38%	4%
	Waterfall	44%	45%	11%

Figure 2: Agile Vs. Waterfall. Adapted from *2015 CHAOS Report*, by The Standish Group, 2015, retrieved from <https://www.infoq.com/articles/standish-chaos-2015> Copyright 2015 by The Standish Group

Start Small

The statistics just confirm a relatively easy assumption that a larger project is going to be harder to complete successfully than a smaller project. This simple concept that larger projects with more resources and broader scope will increase task complexity and durations can justify this thought (Mieritz, 2012). Anyone who has ever estimated or has taken part in estimation activates for long multiyear projects will know the difficulties associated with this practice. However, many companies continue to fund these “mega projects”. The Standish Group published additional statistics in 2012 along with criteria on what distinguishes small projects from large.

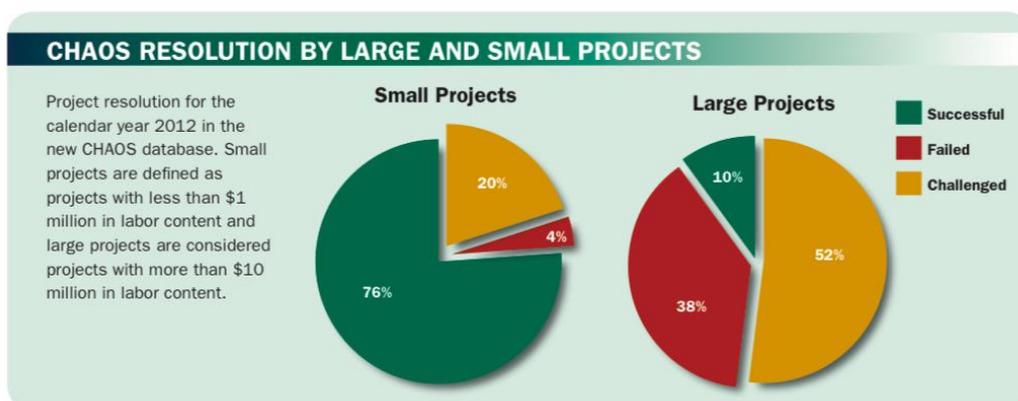


Figure 3: CHAOS Resolution by Large and Small Projects. Reprinted from *CHAOS Manifesto 2013*, by The Standish Group, 2013, retrieved from <https://www.versionone.com/assets/img/files/CHAOSManifesto2013.pdf> 2013 by The Standish Group

Also, a key takeaway from report produced from the CHAOS Report is the “Challenged” group. The projects in this group have finished over budget or late (The Standish Group, 2013). When added with the “Failed” category, 90% of large projects performed poorly.

PMI produces an annual “Pulse of the Profession” report that includes survey results that were completed by those 3,000 diverse individuals throughout various industries. The results to a question around project failure were interesting. Below are the top 6 reasons respondents believe projects fail. These were the 2018 results and although not in the same order the top 6 results in 2015 included the same drivers.

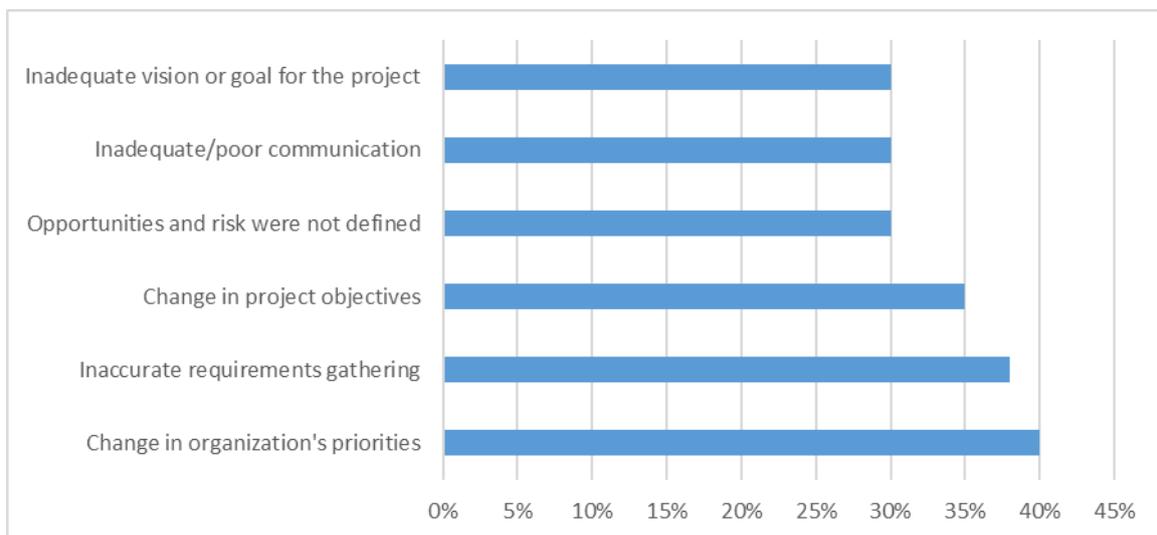


Figure 4: Appendix. Reprinted from PMI's *Pulse of the Profession 9th Global Project Management Survey*, by Project Management Institute, 2017, retrieved from <https://www.pmi.org/-/media/pmi/documents/public/pdf/learning/thought-leadership/pulse/pulse-of-the-profession-2017.pdf> Copyright 2017 by Project Management Institute

These figures illustrate failure drivers across industry. However the largest percentage of respondents listed IT as the primary focus of their organizations.

From the information presented above we can see that the drivers of project failure can be categorized to include areas such as stakeholder engagement, scope management and communication. Although the drivers do not specifically speak on fundamental aspects such as methodology utilized or project size we see from the CHAOS Report results that shrinking the project size significantly increases the chance of project success (The Standish Group, 2013).

The below factors are highlighted and further analyzed to illustrate just how larger projects increase these project challenges.

Uncertainty Increase Over Time

This may seem counterintuitive as we learn more as the project goes on and are able to get a better idea of what the finished product will eventually be as the months pass. However, when regarding initial cost and schedule estimates the longer the project the less certainty around much of this original information. Many project managers are tasked with providing accurate cost estimates and end dates for multi-year projects before gaining funding or project approval. Although we refine as we build out our plans, many of us can never live within our initial funding limits or schedule constraints.

Poor Vision & Priority Changes

If your project is eventually approved and funded, the company or organization is expecting to realize some business value when the project completes. The project may have been selected as part of the strategic vision or to fill a need in the current landscape of the company. Whether it is an external factor in the marketplace or executive change, events can lead to uncertainty in the project. Does your project still have the sponsorship it needs? Large and multi-year projects essentially are exposed to this potential issue for a greater time. Now we should not expect a company's vision to be ever changing but what if the company's priorities have shifted. Traditionally, many project are not delivering much value to until the "Big Bang" rollout. This also creates a challenge in keeping sponsors and users continued support through long development and implementations.

Complex Requirements

A large innovative or transformational project is usually accompanied by technical complexity. Various integrations, data conversions, configurations or development tasks can be difficult to execute. This complexity is usually driven by unrealistic or poorly gathered requirements that plague large projects. This was one of the factors that caused the Healthcare.gov project to be publicized as a colossal failure (Thompson, 2013).

In smaller projects, the idea of defining specific scope driving value is easier to achieve as the thought of a tight condensed budget and schedule becomes more practical. As multiyear projects are kicking off many people can associate the grand scale of the project with unlimited space to add large complex items into scope. Sellers along with buyers can both add to this conundrum by adding these items into the scope of the project even if they are new customizations where the complexity is relatively unknown.

Communication Barriers

The long project with the big budget creates a false safety net. The longer the project the more time you have to get back on track. The sense of urgency to immediately establish good communication between business and IT can be pushed off and delayed eventually leading to an issue. It is not just these two groups but also various areas of the project team.

For many large software projects effort is increased and therefore the number of resources usually follows. There can also be situations where silos are built in the form of various contracts awarded on the same project. This creates additional challenges with handoffs, risks and dependencies.

Contract Type

Lastly, the subject of contracts should be discussed. As traditional project management education teaches that time and expense contracts provide the contractor with power over the buyer while fixed price would favor the buyer. When your project expenditures are driven by effort, it is extremely beneficial to have payments based on fixed price agreements. Even when, many of these projects end up with change request after change request due to some of the above challenges. The milestone-based contract has advantages by making payments on contracts when major milestones are completed. It drives all parties to a completed deliverable while protecting the buyer from any additional expenses if the deliverable is not produced by set date.

To tie this back to project size, the smaller project allows for a level of comfort for the supplier as well. It can be extremely difficult for a vendor to take on the challenge of a fixed price contract for large complex projects and shoulder any costs incurred if dates cannot be met. For all the reasons discussed, a smaller project with clearly defined scope is something a both parties can feel confident about during negotiations.

Agile

The above points are not strictly related to a methodology. Agile methods such as SCRUM can be utilized to combat some issues. The concept of delivering value early aligns to smaller pieces of work. However, Agile projects face similar trends with regards to project size and failure rates. In a study conducted by 6point6, CIO's surveyed stated that 34% of agile failures can be related to poor planning (6point6, 2017). Although planning itself can be done with success on small and large projects it ties back to complexity. The planning of large projects with many dependencies regardless of methodology increases the complexity.

Conclusion

The success of projects continues to be discussed and studied as many organizations invest millions in hopes to get some value in return. There are many reasons that can drive a project off the rails and inevitably cause it to finish over budget or be heavily delayed. With a focus on IT projects, management methodologies like Agile can be used with some success to mitigate some of the common issues and help project managers deliver value early. However, when looking at success to failure comparisons, one of the biggest factors is the size of the project. The conclusion is relatively easy to arrive at if you believe all projects face similar challenges. With large projects these challenges are magnified and exaggerated compared to similar challenges on their smaller counterpart projects.

As companies begin to invest in their next big initiative, a few simple ground rules can essentially trim down their projects from enormity. How much of these business requirements will produce real value? Can we achieve this value as soon as possible to align with our corporate vision? What is the leanest team that can help achieve this goal? Can we put in place practices to assist in achieving project success? Although some of these questions seem to align to an Agile framework, the answers really drive to a tighter trimmed down project from the start.

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Michael Rosato is a graduate student pursuing his MBA from St. Joseph's College in Patchogue, New York. Michael is a certified Project Management Professional (PMP) and has earned additional certification in Agile methodologies. He has worked in the Utility industry for over 8 years operating in New York City. Michael has held a previous position in portfolio management focusing on cost controls, forecasting and project selection. He is currently holding the title of project manager with oversight on a comprehensive software implementation.

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