Chapter 1
IT Projects Are Investments

It was the best of times, it was the worst of times.

—Charles Dickens

Chinese symbol for crisis: opportunity + danger.

—Traditional interpretation

IT is the source of much of the productivity growth in business over the last 20 years.[1] That's the good news. The bad news for businesses and other organizations is that productivity is not growing as fast as it did.

As competition increases through globalization, innovation, outsourcing, and even changes in the global financial system, the competitive edge goes to organizations that manage projects effectively.

Why? Because projects are the means to introduce change.

Success in a moving world is founded on the ability to change effectively even when the environment is turbulent.

Projects are a way of:

- Consciously identifying and introducing change;
- Defining a start and end, an intended result, and a set of assigned resources;
- Tracking investments in change and holding people accountable for those results.

A project is an investment to achieve a return, a result, such as keeping the business operating, meeting regulatory needs and deadlines, or building a strategic capacity for a business unit.

CIOs are aware of the problem—many track projects closely. They introduce software delivery performance improvement processes like CMMI, ITIL, or Six Sigma—inspired processes. They hire experienced project managers. They invest in PPM systems.

Experienced PMs report that a ''good'' project is one that is on time, with slight budget overrun and functional shortfall.

This is not enough for sustained business results.

In the investment world, returns are associated with risks. These risks require management for capital preservation and positive returns. Managing the risks to returns is as critical in projects as it is the investment world.

Effective projects generate results—a capacity needs to be used, an idea or innovation adopted and acted upon, or people aligned and acting in a new direction. If this fails, results fail.

Those who actually measure their success rates are surprised with what they find internally even when they are familiar with well-known IT project statistics mentioned in the Introduction. When 93 percent of projects underperform or are outright written off, any project that truly succeeds deserves celebration.

The real cost of failure is not talked about. The real rate of return is rarely calculated. The purpose of **Productivity** (Part 1) is to set a benchmark for the real productivity or ROI from our investments in technology and business change.

Chapter 2 benchmarks the real returns of three well-known IT project portfolios. Four actions to take to lift success rates and results are covered in Chapter 3. A pragmatic approach to calculating your own benchmark based on your project track record is covered in Chapter 4. The last chapter in this Part is a diagnostic for those wanting to see the track record of projects in their own organization—like a golfer's PAR.

This chapter looks at productivity, failure, and opportunity. The big picture business issues.

Avoiding the failure rate simply means it is not dealt with. Few wish to raise such information to the executive committee or board. On the other hand, recognizing what the failure rate in the current track record costs the company (Part 1) and then being able to identify where to proactively act to address and improve the track record (Parts 2–5) has real business value.

Executives know it takes courage to call the issue. They may use a consultant or their own staff to evaluate the probable performance results of 10 of their top projects. They *will* get the data. They will address the projects that affect their lines of business. They don't want failures or write-offs. They don't want failure. They want Predictable, Accountable Results (PAR).

Successful projects help their business grow. Unsuccessful ones hinder growth.

Failure or success is predictable. IT project performance can be diagnosed from leading indicators in the same way that high blood pressure can predict a possible heart attack.

The Back Story on Productivity

Taking a very macro picture of productivity growth in business, in the last 30 years, technology and other corporate practices have transformed productivity in many countries.

To take just one country, the United States:[2]

- 1973–1995: 1.4 percent productivity improvement;
- 1995–2003: 3.2 percent productivity improvement;
- 2004–: productivity has dropped.

This 3.2 percent annual productivity growth fueled the last business cycle.

Others[3] demonstrate that the greatest gains in productivity have been in East Asia where it has doubled in a decade, which is interesting in these days of global competition and supply chains.

The U.S. Department of Commerce attributes North American improvements primarily to **technology**. Others also give credit to rising levels of M&A, to labor arbitrage via outsourcing[4] and offshoring. The International Labor Organization[5] finds that increases in productivity in the last 10 years are primarily the result of firms **better** combining capital, labor, and technology.

It's technology, but it is not just technology that gets better results.[6]

The Productivity Challenge and IT

In practice, productivity improves when there are more successful changes than unsuccessful.

The reality is that the net sum is just barely positive.

The 3.2 percent annual growth in productivity attributed to technology in Figure 1.1 below sounds good until you recall the failure rate statistics of up to 93 percent[7] of projects failing at some level.

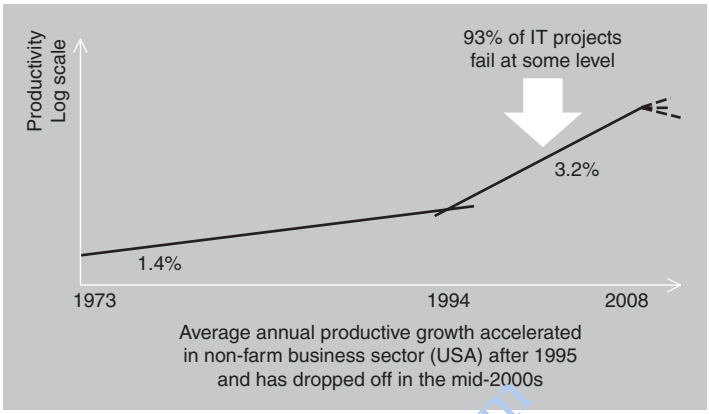

FIGURE 1.1 The Productivity Challenge

This productivity growth is underperforming. Improving the results from projects is a real source of competitive advantage. Executives in companies large and small, domestic and international, talk of their frustrations when introducing change to improve productivity and results.

CEOs Say They Cannot Continue to Introduce Change in the Same Way

CEOs see significant change ahead, but the gap between expected change and the ability to manage it has almost tripled.[8]

Globally, IT executives know this[9] as they report that initiatives frequently fail to make a positive impact on the business as Table 1.1 shows.

This is a sizable business problem.

TABLE 1.1 *IT Executives Belief in the Impact of Projects on Business*

Region	% Believing that 25% or More of Projects Failed to Make a Positive Impact on the Business
Europe	40%
Americas	30%
Asia	Over 50%

- CIOs and IT get credit for honesty. These figures are not palatable to the business. They do make it clear that good results are rarer than is publicly acknowledged. The need for a broader approach to managing the risks to achieving business results is clear.[10]

Productivity growth requires IT and business to deliver results together.

Sidebar: Success Depends on Your Perspective

Many providers of IT services—software houses or independent developers—say, "We don't fail like that. I don't understand where they get their statistics from." IT service providers are looking at project results from a different point of view.

Success as a service provider means:

- Functional changes and associated budget variations are agreed.
- The customer accepted the work and paid for it promptly.
- The customer recommends or uses the service provider again.

However, the business person or organization who paid for the IT project will have a different definition of success.

- Did it meet early expectations (scope, cost, time, quality)?
- Was the process of working with the supplier pleasant?
- Did the project output work with the other components of their business to produce the business result anticipated?

What Is Success?

Some say success is a ''positive contribution.'' That's a lukewarm description of success.

A pragmatic definition of success is delivering what was expected, when it is expected, for the price expected. Better

yet, success is delivering more than expected—as any customer will happily say.

A more exciting definition of success would be projects receiving accolades like ''dream result,'' ''wow,'' ''fantastic,'' and ''what a brilliant experience.'' The magic of a da Vinci experience of grace, precision, creativity and beauty.

Projects fail if they are:
- Late, which results in lost time to market.
- Over budget, which means additional resources need to be allocated to the project.
- Shortfall in scope—capacities are not delivered.
- Terminated—capital invested is written off.

Research[11] finds success using any of the above definitions rare. Success is often considered delivery within 10 percent of agreed parameters. Good is within 7 percent. Excellent is meeting expectations.

This is not good enough. The cost of accepting this practice is a heavy burden on the business results from projects. This cost is benchmarked in the next chapter.

As results depend on capacities delivered and used by the business, this book considers success when a project delivers what was wanted, when it was agreed, for the price agreed. It also considers the service experience.

A Non-IT Project Example

A few years ago I renovated my kitchen and replaced all the cupboards, bench tops, and utilities. I agreed to a granite bench top at price $x. I was disappointed when a Formica bench top was delivered. I'd paid my money, but I'd not gotten what I'd expected. Yes, it is still a bench top, and it allows kitchen functions to be performed, but it wasn't what was agreed. From the business perspective, this was underdelivery in quality terms.

When they were also two shelves short, a 7 percent shortfall, I was definitely not impressed.

Without those two shelves, I had boxes of tin cans sitting on the kitchen floor. I couldn't put all of my cooking equipment away. After about a week of frustration, I called a handyman who came and fitted two shelves for me. I'd found my workaround at extra cost and inconvenience.[12]

Project Failure Is the Untapped Source of Productivity Growth

IT project failure rates have a direct bottom line cost. Non-delivery also affects productivity growth.

Today productivity grows an average of 3.2 percent per annum with a project failure rate[13] that includes up to

20 percent project write-offs and 73 percent of projects underperforming. What could productivity be if projects were successful more often?

Why This Failure Rate Continues to Exist

Executives and project managers assume they are doing fine, that these results are normal and acceptable. Everyone assumes their project will succeed. Or if not, they will keep quiet.

Project sponsors know that failure is likely. They also know it is better to try and fail than not to try at all.

IT people are realistic. They know the results are not good enough, but they don't want to be shot for making the real results public.

Few want to accept failure as the default option, yet experience and data say it is. It will stay this way until investing for success is seen as having greater value (financially for the business and motivationally for people and performance) than underinvesting in projects and failure.

Sidebar: Rational Response . . . Who Wants to Be the Messenger?

Few people want to put their reputation at risk (messengers are often shot) or lose their job (if the project is terminated). At the individual level, it makes sense to just keep going.

Some of the contributors to project failure are outside the project team. The team is focused on their work, and everything else is "someone else's problem." Even if the team has the experience to know these external factors may affect project results, they have little incentive to raise a warning. Not only may the messenger be shot, they might be perceived as commenting on an area outside their remit—a behavior that is rarely politically smart.

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To keep silent is rational for the individual or the team. It is not functional for the business. This combination of a behavior's being rational from the perspective of one group but dysfunctional elsewhere in the business is a **rational dysfunction**.

Rational dysfunctions underlie several of the factors that hinder the long-term health of IT projects since IT projects often reach across boundaries within the organization. More on these in Part 2: Probability.

Sidebar: Irrational Response—Paying Attention to Sunk Costs

The old-fashioned expression for this is "don't throw good money after bad." Businesses (executives and projects) often justify continuing to invest in a project on the basis of "we've decided we are going to do this" or "we've invested so much." Financially and economically, this is irrational. If a project is discovered to be highly likely to fail, there are only two rational responses:

1. Identify what it will take to address the potential points of failure and address them
   OR
2. Close down the project.

In many organizations, it is easier to act as if all problems are surmountable. They continue spending and still fail.

Rationally, the funds and capital already spent are "sunk." They're gone. They're not recoverable. Future funds, in contrast, can be used for some other need that has a strong probability of success.

Data suggests that the assumption of success needs to be challenged by leaders.

Get data on your projects. Verify. Until you have data, the only valid assumption is that your project results will be just like everyone else's. A high probability of failure.

CASE STUDY

FROM REAL LIFE[14]

David saw that his IT department was supporting many business changes projects, but he realized that executives had no idea about the resources required for these projects or the outcomes that were expected.

David organized an inventory of all 300 projects. Most lacked a business case evaluating expected results against the investment. Some projects were in conflict with others. A project portfolio management process was introduced so that leadership had visibility and governance of the changes underway.

Improving Productivity Is a Process

By definition, productivity improvements are a result of continuously improving. Continuous change is a process not a transaction. The process of change needs to be sustainable so that productivity can continue into the next period.

Ninety-three percent failure suggests significant room for improvement.

What would a 10 percent transformation to your project effectiveness achieve? To your line of business? To your organization? Competitively? In terms of all of your bottom lines: financial, social, environmental?

In these terms, IT project success becomes more than a successful project; it becomes a foundation of how the organization grows strategically.

Survival of the Fittest

Back in the 1860s, Darwin saw competition as a means of survival for the species best able to adapt to change. Modern-day executives should relate to the way he put it:

> *The race goes not to the most fleet of foot, nor to the strongest, but to the species that is the most responsive to change.*
>
> —Charles Darwin

Productivity as a single step forward is one thing. Productivity gains that *help* the next step forward are even better.

The business challenge for IT projects is to create positive changes that re-enforce the strategic direction while minimizing negative implications.

A negative change affects the pace of future changes, which are then forced to invest more effort to create a positive impact.

CASE STUDY

FROM REAL LIFE

Winston presented two IT options to amend existing systems to support the design of a new process and function for the business.

- One was rough, patching three systems together: fast, cheap, not robust in terms of IT architecture or capacity to support future growth.
- One considered and addressed longer-term business needs and potential growth. Slightly longer delivery time, more effort, more cost. More robust.

The business chose the cheap short-term option, which was more expensive in the long term as the business grew. The costs of future changes were ignored.

Ignoring the broader implications of a project can also occur for changes that mix business processes and technology.

CASE STUDY

FROM REAL LIFE

CEO Rick felt an economic downcycle approaching and directed the company to be more cost conscious. He kicked off a shared services project that included several IT solutions: one system to support managing work in the new shared

services structure, another system to provide direct web-based customer support and services.

The systems were delivered: on time, to specification and budget.

Staff heard of the secret project via the internal grapevine. Key staff began taking sick leave or left. Local productivity and customer services plummeted. Customers didn't like using the web-based system.

Extensive actions and additional investment was required to neutralize these foreseeable consequences. Additional investment was required to neutralize the impact.

A direct impact was the need to redo the externally facing web-based system to make it acceptable to customers.

Another impact was more effort required for the next changes (dealing with doubt, uncertainty, and cynicism depending on the group), a reduced commitment to the company and higher staff turnover in a company already challenged by staff turnover levels.

At the end of the day, for the business, responsibility for business results is shared. All play a role in leading successful change. In this case, the predictable responses outside the technical process weren't considered.

These additional flow-on effects are legitimate costs of the original change and are often overlooked.

Takeaways

- Productivity growth has dropped significantly. This is a long-term strategic issue for CEOs, CIOs, and business leaders.
- Productivity growth is a result of the cumulative effect of projects on business results.
- The 93 percent project failure rate provides untapped opportunities for competitive positioning and productivity growth.
- A substantial number of IT professionals recognize that IT projects fail to make a positive impact on their businesses.

- At a practical level:
  - Each project counts, each needs to succeed.
  - Productivity growth from projects requires IT and business to deliver results.
  - It takes courage and commitment to deliver success—as any champion golfer would say.

The next chapter measures productivity thorough benchmarks assessing the ROI delivered by project portfolios.

Endnotes

1 U.S. Department of Commerce.
2 Ibid.
3 International Labor Organization (2007), *Key Indicators of the Labor Market*, ILO/07/47.
4 Khan, Habibullah and Islam, M. Shahidul (2006), *Outsourcing, Migration and Brain Drain in the Global Economy.*
5 International Labor Organization (2007), *Key Indicators of the Labor Markets*, 5th ed.
6 What contributed to ''better?'' The last few decades have seen major improvements in technology, in corporate management practices, in capital markets and financial risk management and in the disciplines for delivering projects and change. To mention a few that are relevant to business transformation:
   On the technology front:

   - *Hardware and Infrastructure:* Processing chips, telecommunications, routers, server farms, satellites, robotics, optical fiber, Internet, Web 2.0, cloud, and a myriad of other components of technology have provided the backbone of productivity transformation.
   - *Software and services management:* Software ranging from custom-developed applications to open source, MS Office, and ERP programs like SAP or databases. IT governance, including portfolio management, CMMI, ITIL, SaaS, and so on, have improved IT services delivery.

Corporate management practices:

- Efficiency methods including Six Sigma, LEAN, MPRII, Just-In-Time (JIT), activity-based costing (ABC), out-sourcing, and offshoring have improved cost efficiency.
- Alignment and motivational methods including Vision/Mission, Balanced Scorecard (BSC), leadership programs, coaching and mentoring, Key Performance Indicators (KPIs) and bonuses, learning organization and systems thinking have improved the productivity of the human side of business.

Capital markets and risk management:

- Risk sharing and hedging, more sophisticated global financial systems and products, including an increased access to finance, have affected the ability of companies to fund growth.
- Regulatory frameworks including SOX have added to internal risk management practices.

Methods for managing and introducing change:

- Project management methodologies became widespread in the 1990s and are widely applied to technology projects, thanks to PM-BOK, PMI, and PRINCE II.
- Organizational change management: PW-MORI research was released as Kotter published in the *Harvard Business Review* in 1994. Change management becomes part of the executive and M&A tool kit.

7 Sauer, C., Gemino, A., and Reich, B. H. (Nov. 2007), ''The Impact of Size and Volatility on IT Project Performance.'' *Communications of the ACM* 50, No. 11: 80. doi: http://Doi.Acm.Org/10.1145/1297797.1297801.

8 IBM 7 survey of CEOs.

9 Bourne, Vanson (July 2008), ''Getting Smarter about IT Risks.'' http://mitsloan.mit.edu/cisr/pdf/EIU_GettingSmarterAboutITRisks.pdf.

Interestingly, IT executives have different perspectives of their primary role depending on where they are in the world, reflecting the different issues they face, as shown in the following table.

	Total	Americas	EMEA	Asia-Pacific
Improve competitiveness/agility	36 %	37 %	32 %	43 %
Reduce costs	30 %	29 %	33 %	26 %
Increase revenue	12 %	17 %	8 %	12 %
Mitigate risk	12 %	8 %	14 %	10 %
Ensure regulatory compliance	10 %	7 %	12 %	7 %
Other	1 %	1 %	0 %	2 %

10 The majority of IT executives feel that the ''complexity of business process, the speed of operations and the continued emergence of new technology paradigms will require increasing cooperation between IT and the business if business risks are to be reduced.'' (EIU ''Getting Smarter about IT Risks, 2008''). This highlights the need for a broader approach to managing the risks to project results than ''IT risk alone.''

11 Standish Data, http://www.infoq.com/articles/Interview-Johnson-Standish-CHAOS and http://www.infoq.com/articles/chaos-1994-failure-stats, provide an interesting comparison over the period from 1994 to 2006. The variability in the success rates suggests that, while project management has helped, it's not the solution to the results problem. Standish still reports that less than one-third of projects succeed.

Chris Sauer's research uses data provided by experienced PMs. (Other research shows that the failure to have a skilled PM is a leading indicator of failure—more on leading indicators of potential IT project failure in Part 3: Project.) Even with this expert group, 33 percent of IT underperform substantially, and 60 percent underperform slightly.

Petouhoff, Natalie L., Chandler, Tamra, and Montag-Schultz, Beth (2006), ''The Business Impact of Change Management, What is the Common Denominator for High Project ROI's?'' *Graziiado Business Report*, Pepperdine University, http://gbr.pepperdine.edu/063/change.html shows the negative impact of underinvestment in the non-technology components of change on ROI.

12 In a numbers-focused business world, we often focus on the facts over the experience or emotions that occur as we deliver a product or a service. More on this in Chapter 4.

13 Standish Group: 20 to 30 percent are written off in the viewpoint of business executives. Sauer reported from the Project Manager's perspective that 10 percent of projects are cancelled.

14 Each of the stories from real life is true. Names are changed to protect both the innocent and the guilty.

The stories reflect decisions made as a result of the actual situation at hand in those organizations. The real-life examples are to the point at hand. They are not recommendations, as each of these occurred in the context of the business change in that organization. Do consult your CM/PM/transformation advisor. This is a normal health and responsibility reminder and warning for mature, informed, accountable decision making. In every case, a diagnosis of what is real and what is needed occurred.