



# **Evolving IT from “Running the Business” to “Changing the Business”**

Delivery Excellence in IT Software and Services

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## In Search of IT Delivery Excellence

In today's global economy, organizations express their fundamental business strategies through information technology. Logic dictates, therefore, that business transformation would be fueled and supported by corresponding IT transformation. As Avnet CIO Steve Phillips recently told *Optimize Magazine*, "Business and IT have the same agenda: to make the business successful."<sup>1</sup> Experience begs to differ. For a number of reasons, business-critical software and services projects—whether done in-house or outsourced—fail far too often. They take too long. They cost too much. They are riddled with defects and don't accomplish the business goals for which they were designed.

An August 2007 study by Dynamic Markets Limited of 800 IT managers across eight countries found:<sup>2</sup>

- 62 percent of organizations experienced IT projects that failed to meet their schedules
- 49 percent suffered budget overruns
- 47 percent had higher-than-expected maintenance costs, and
- 41 percent failed to deliver the expected business value and ROI

Moreover, broad industry consensus indicates that more than one-quarter of all software and services projects are canceled before completion, and of those that are completed, up to 80 percent of budgets are consumed fixing self-inflicted problems.<sup>3</sup> According to Gartner Research, "The lack of testing and QA standards, as well as a lack of consistency, often lead to business disruption, which can be costly."<sup>4</sup> Gartner also reports that "testing consumes 25% to 50% of the average application life cycle and often is viewed as adding no business value."<sup>5</sup>

Failure of software and services projects is so widespread and so commonplace that 43 percent of IT managers say their business managers and Boards of Directors tend to accept faulty IT projects as a normal, necessary evil, according to the Dynamic Markets Limited study.<sup>6</sup>

Though business executives reportedly accept these IT failures with relative equanimity, failure to perform obviously saps business management's faith in the strategic importance of IT and IT managers. Where IT should, by rights, be a potent strategic business tool, only 11 percent of business organizations consider technology a "strategic weapon," according to a recent study by Info-Tech Research Group.<sup>7</sup> Why the disconnect between business and IT, a relationship that should be extremely close? The conclusion is inescapable: Most corporate decision-makers are frustrated with the failure of IT, despite enormous investments, to deliver business value. As *The Wall Street Journal* has noted, "Wall Street firms have never been hungrier for new software programs in areas such as trading, foreign currency and asset management. Yet the business side has lost its patience with IT, as well as its tolerance for software bugs."<sup>8</sup>

Tata Consultancy Services (TCS), the world's leading IT services, business solutions, and outsourcing company, believes excellence in software and services delivery can be achieved when an IT vendor understands a customer's business, the nature of that customer's business challenges, the customer's technology infrastructure, and how to identify and implement global best practices to deliver the desired business outcome on time, within budget, and with industry-leading quality.

## The Business Value of Delivery Excellence

In today's organizations, IT departments have two main functions, one tactical and one strategic. Their tactical assignment is to run the business, and their strategic aspiration is to transform the business. One of the prime differentiators of winning and losing companies is the amount of time IT spends running the business vs. transforming the business. To truly deserve a seat at the management table, IT must show their organizations how to capitalize on IT, not just pay for it. Smart companies know how to make information a profit center, not a cost center.

As *Optimize Magazine* says, "Among the CIO's main opportunities are using customer and business data to influence new products and services to drive growth and facilitate company-wide innovation."<sup>9</sup> According to the magazine's ongoing survey of CIOs and IT managers, over the past three years, the ratio of IT budget allocated to running the business (maintenance) vs. changing/transforming the business (innovation) has remained constant at 64 percent to 36 percent.<sup>10</sup>

Excellence in the delivery of software and services can turn that ratio completely around, moving the bulk of budget to the strategic. An ongoing five-year TCS engagement with a global bank based in Europe, in which TCS is tasked with optimizing the bank's IT operations, has seen a steady decrease in "RTB" (run the business) budget share and a steady increase in "CTB" (change the business) share.

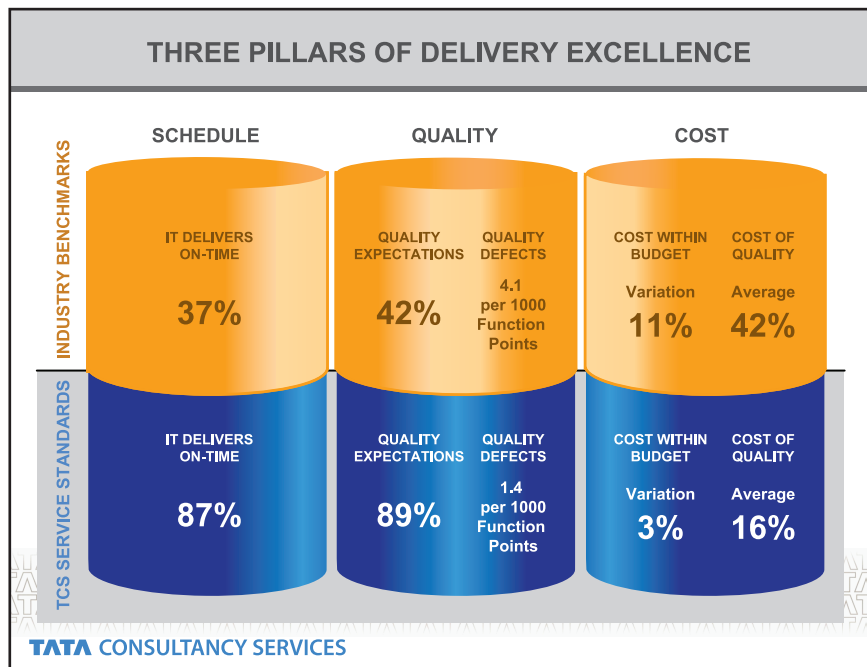
Put another way, delivery excellence in software and services can pay for itself. In another five-year IT operations engagement with a global insurance firm, TCS continued to charge the client the same amount, but over time, as maintenance and delivery costs (RTB) went down, the client was able to put increasing amounts of capacity into strategic business transformation (CTB) without spending any more.

## The Three Pillars of Delivery Excellence

Delivery excellence can be measured by three broad criteria:

- Schedule
- Quality
- Cost

Let us examine these criteria one by one, comparing industry-standard results to those delivered by TCS, to understand how TCS delivers excellence and its concomitant business value.



### SCHEDULE

Here is a prime example of a project that had to be completed on schedule, or else, because the schedule deadline was a single day. A global confections manufacturer decided to move its global financial reporting from 13 four-week periods per year to 12 monthly periods, a seemingly small change to the outside world but business-critical—and highly complex—to the customer. The change had to occur on one specific day, when the customer’s global system was idled for a changeover to a new ERP system, or wait another year for implementation. TCS successfully managed this now-or-never, double-barreled project—changing the financials while putting a new global ERP system into production—by working painstakingly backwards from the date of execution, and creating hundreds of intermediate milestones in locations around the world.

*TCS after-project research among clients turns up an 87 percent satisfaction rating for on-time project delivery. How does this compare to the industry standard? A study by Info-Tech Research Group said that 95 percent of all IT software and services projects are either late or unsatisfactory to the organization’s business management.<sup>11</sup> TCS research indicates that the average on-time delivery level in global IT is 37 percent.*

One key element in TCS' superior record for on-time project completion is the company's Global Network Delivery Model™, an integrated framework of people, processes, technology infrastructure, and collaborative tools located in secure Global Delivery Center locations around the world. TCS' heritage as a small company battling bigger incumbents continues to deliver benefits to this day, despite the company's larger size, guaranteeing customers business insight, agility, speed, service, and attention to the multiple details that can upset delivery schedule.

## QUALITY

Gartner emphasizes "A more efficient and effective testing phase is a critical first step toward building quality into an application" as opposed to "testing quality into the application."<sup>12</sup> Put simply, quality means delivering what you promise, a point of honor for TCS. One third of 100 global CIOs in a recent survey identified service quality – delivering on one's promises – as the prime area of concern when choosing an IT services vendor.<sup>13</sup> According to a recent Gartner Research report, "During the next few years, IT organizations' performance increasingly will suffer, unless they successfully adopt quality programs that combine metrics-driven efforts, such as Six Sigma, to help focus efforts and apply agile practices."<sup>14</sup> Gartner indicates that "many organizations do not know how much they are spending on testing and QA, nor do they understand the true cost of inadequate testing procedures or have a discretionary budget to develop world-class services."<sup>15</sup>

*TCS' research puts the industry benchmark for delivering on promises at 42 percent, whereas TCS clients rate the company at 89 percent for meeting quality expectations.*

Promised business benefits can often be delivered through superior innovation. A major home improvement chain came to TCS to fix a vexing and expensive problem: credit card reversals. When customers buy something using a credit card and then return the item shortly afterward, or dispute a charge, their cards are credited back for the purchase, and the store loses money because it is charged for the credit card transaction. TCS' assignment was to minimize that loss, which it did by applying Six Sigma techniques to every sub-process of the larger dispute-resolution process. The store's winning percentage of dispute resolutions rose, from 38 percent to 60 percent, over a six-month period, saving the client \$15 Million in net income in the first year alone.

One key driver of delivering on promises is the TCS Co-Innovation Network, which leverages disruptive and sustained innovation to improve processes and systems on an ongoing basis to empower customers to achieve the most challenging business goals. TCS' innovation ecosystem consists of India's first and largest software R&D unit and other R&D centers, Centers of Excellence, academic labs, and alignment with leading technology companies, Tier One universities, and innovative start-up firms. The company's TCS Innovation Labs allow TCS to identify and refine critical emergent technologies and next-generation solutions and apply them to clients' specific business problems.

## Quality Defects

Sometimes the margin for error in a software project is zero. A global life sciences company turned to TCS for help in administering clinical trials of experimental medicines. The challenge was to automate manual scanning of patient test results so that doctors would only be required to intervene in the 30 percent of results that represented exceptions. This project was not just business-critical, it was life-critical. A single defect could be fatal.

The point in software development at which to catch defects is as early as possible. A bug found in released code can take anywhere from five to 17 hours to repair, but the same bug caught in development can be fixed in one hour. The standard practice in IT companies is for peers to review their colleagues' code, but when a developer earns a reputation for high quality, the reviewers becomes somewhat indulgent. For that reason, TCS combines artificial-intelligence code examination with rigorous, if not merciless human peer review to make code review as close to 100 percent compliant as humanly and automatedly possible.

*The industry benchmark for defect tolerance is 4.1 defects per 1,000 function points. TCS employs a unique defect prediction model that captures actual defects as they are discovered, then dynamically predicts the number of defects the team should seek to eliminate on subsequent project phases. As a result, TCS has delivered into production projects with 1.4 defects per 1,000 function points—three times better than the industry average, but not good enough. Certainty is perfection, and that is the goal TCS pursues each day. This requires not only a high level of quality and maturity on TCS' part, but also appropriate customer processes to enable superior results. TCS helps customers develop these processes with its IT Governance and Process consulting practice.*

## **COST**

Gartner reports that “some globally delivered services have been inconsistent, and some buyers have found that their global contracts included hidden costs and unanticipated risks.”<sup>16</sup> Experience indicates that this might be understating the case. According to TCS research, the average budget overrun for the types of IT projects TCS' competitors execute is 11 percent. Business author Watts S. Humphrey, who has studied the issue, says the issue may be vendors' lack of ability to scale to meet global IT objectives.<sup>17</sup>

One TCS customer is a FORTUNE® 100 global conglomerate with multiple business units in widely disparate fields. Each of the business units is the size of a large multinational company. One business unit came to TCS with an RFP for electronic invoicing, estimating the cost of the applications and implementation at \$1.5 million. TCS surprised the customer by delivering the solution for less than 25 percent of the original budget. How was this done? Months earlier, TCS had completed a similar project for another business unit of the company, and was able to reuse much of the software and processes to bring the price down by a factor of more than four. Why was it done? Because TCS is not in the business of making money from its customers' inefficiencies.

*While the industry cost overrun averages 11 percent, TCS brings its engagements in for an average three percent variation.* There are a number of explanations for this superior performance that revolve around the concept of certainty. To begin with, TCS and customers engage in extensive pre-planning to define project requirements more clearly than is usually the case. Once requirements and TCS-customer alignment are in place, TCS is pioneering two unique tools to manage cost: Knowmax, a knowledge management system, and MAP-AGILE for requirements management and analysis. Knowmax gives TCS consultants access to nearly 40 years of experience and best practices arranged by type of engagement, the technology in use, and customer requirements. Those requirements are continually analyzed by MAP-AGILE, which identifies gaps and suggests customer questions, allowing requirements and the work toward realizing them to be tightly and economically synched. The secret of keeping costs in line is to reduce the necessity for changes to the minimum.

## **Total Cost of Quality**

The “total cost of quality” in an IT software and services engagement is the combined costs of assurance, prevention, and failure. TCS invests in assurance and prevention measures, thus reducing both the occurrence of failure and the cost of correction when failures do occur. TCS research indicates that the “total cost of quality” across the industry varies from 62 percent to 22 percent based on CMM® Level 1- to Level 5-compliant organization. By contrast, TCS cost of quality averages about 16 percent, with some engagements coming in as low as 7.4 percent for maintenance projects, where investments in prevention pay the most dividends in reducing cost by reducing failure.

For a national retail chain, TCS managed a portfolio of more than 300 major applications, and over the course of a three-year engagement reduced trouble tickets per day from 50 to 18. This 45 percent reduction in “abends” gave the customer higher application availability, as well as delivering 15,700 CPU hours of savings over the course of the engagement, thus allowing the customer to do more with the technology assets already on hand.

## Delivery Excellence Requires the Right Ecosystem

According to a Gartner report, "Through 2010, Gartner expects that most IT organizations will continue to focus on the basic IT processes of application development, project management and service management. They will fail to extend this process focus to all activities, and will fail to change organizational values and behaviors."<sup>18</sup>

Earlier, this paper identified the business benefit of excellence in the delivery of software and services: moving IT from *running* the business to *changing* the business; from *spending money* on information to *making money* on information. It is, naturally, TCS' view that engaging TCS is the primary way to enjoy those business benefits, but simply engaging TCS is not enough.

Key elements of the proper ecosystem are:

**Relationship Maturity:** This means investment by both TCS and customers in a partnership based on a shared vision and strategic objectives leveraging a customized yet time tested service model that TCS has perfected. Both sides must continuously challenge one another to raise the bar, promoting innovation accompanied by moderate risk.

**Governance:** Excellence requires evangelical executive sponsorship and a commitment to establishing key performance measurements at all levels, joint ownership with clear accountability, and periodical performance reviews that effectively address the root causes that limit performance

**Partnership:** Investing in interpersonal relationships at all levels that promote open and timely communication, and—extremely important—transparency on both sides. Empowerment at appropriate levels to remove hurdles and drive process improvements that promote pro-activeness, productivity, reuse, change, efficiency and leverage of the broad ecosystem that both TCS and its customers bring to the table. The relationship between clients and consultants must be marked by a shared language, a shared vision, shared objectives, and a shared definition of success metrics.

## Delivery Excellence The Surest Route from RTB to CTB

Quality is not a side show for TCS. It is the fundamental reason the company exists. By understanding customers' operations and business problems, analyzing options, and then applying a solid predictive model, unique analytical and knowledge-management tools, and unusually canny business insight, TCS has built a consistent track record of reliability and success that amounts to excellence in the delivery of software and services. This puts firmly into customers' hands the means to evolve its IT operations from merely running the business to transforming and changing the business to drive maximum business value.

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## Sources

- 1 Brian Gillooly. "CIO Role Revs Up." *Optimize Magazine*, June 2007. This article covers a survey of 575 business and technology executives that was conducted by *Optimize Magazine* in 2007.
- 2 IT Projects: Experience Certainty. Independent Market Research Report. Dynamic Markets Limited, August 2007.
- 3 Charles Mann. "Why Software is so Bad." *MIT Technology Review*, August 2002.
- 4 Partha Iyengar, Frances Karamouzis. "Offshore Application Testing Drives Greater Business Value." Gartner Research, August 17, 2007, ID Number G00150394, page 4.
- 5 Iyengar and Karamouzis. "Offshore Application Testing Drives Greater Business Value." Gartner Research, page 1.
- 6 IT Projects: Experience Certainty. Dynamic Markets Limited.
- 7 "2005 IT Priorities." *Info-Tech Advisor In-Depth Report*. Info-Tech Research Group, March 15, 2005.
- 8 Penny Crosman. "Wall Street Firms Turn to Best Practices Models to Speed Up Software Delivery." *Wall Street Journal*, June 1, 2007.
- 9 Brian Gillooly. "CIO Role Revs Up."
- 10 Ibid.
- 11 "2005 IT Priorities." Info-Tech Research Group.
- 12 Iyengar and Karamouzis. "Offshore Application Testing Drives Greater Business Value." Gartner Research, page 1.
- 13 Carey Schwaber with Liz Barnett and Carl Zetie. *Corporate Software Development Fails To Satisfy On Speed Or Quality*. Forrester Research, Inc., April 11, 2005.
- 14 Iyengar and Karamouzis. "Offshore Application Testing Drives Greater Business Value." Gartner Research, page 3.
- 15 Watts Humphrey, speaking engagement entitled "Scaling up the Process." 2007 Software Best Practices Conference.
- 16 Ian Marriott. "Key Issues for IT Services and Sourcing, Global Delivery." Gartner Research, March 27, 2007, ID Number G00147097, page 2.
- 17 Watts Humphrey, speaking engagement entitled "Scaling up the Process." 2007 Software Best Practices Conference.
- 18 Iyengar and Karamouzis. "Offshore Application Testing Drives Greater Business Value." Gartner Research, page 3.
- 19 Ibid.