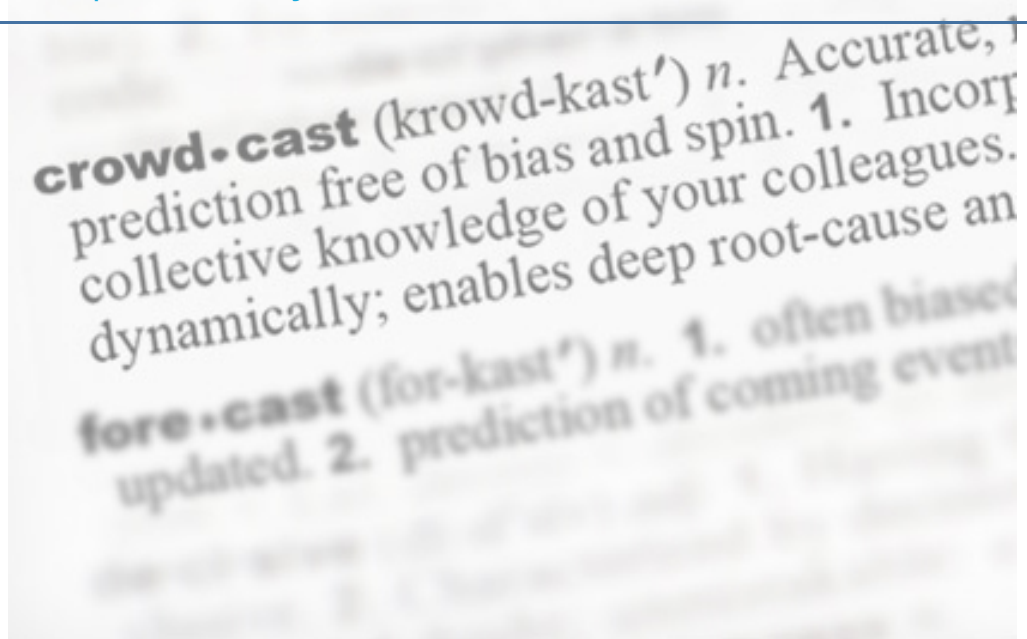


Harnessing Collective Intelligence to Improve IT Project Management

Leverage the tacit knowledge in your organization to identify, understand, and proactively reduce risk

White Paper



“Processes alone are far from enough to cover the complexity and human aspects of many large projects subject to multiple stakeholders, resource and ethical constraints”

- British Computer Society, June 2008

Executive summary

Information Technology (IT) is the backbone of business. To remain competitive, companies must continually update their tool chest. For CIOs, providing their organizations with the latest, most sophisticated systems and applications can be a great challenge, as many IT systems are complex and expensive to buy and implement. Moreover, IT project success is often jeopardized by unrealistic budgets, timelines, and project scope and conflicting agendas and motivations of management, vendors, and consultants.

Effective project monitoring is vital to improve the prospects of success. Team members who are directly involved in the execution of the project often are the individuals best able to provide direct insight into project risk. Crowdcast has created innovative tools and strategies to harness this knowledge by running fast and lightweight prediction markets, which are great at efficiently aggregating dispersed information free of bias and spin.

The Crowdcast Platform is a powerful and effective way to augment existing project management systems and processes with an early warning system that provides an accurate, real-time view into emerging risks. Management can use these insights throughout the development and delivery cycle to identify risks, understand their root causes, and take corrective action to address potential problems before they metastasize and scuttle a project's chance at success.

A case for improving IT project success rates

There has been a great deal of innovation in the last several years to improve the success rates of IT projects. Project management has matured greatly as a profession and a practice. Many new development, testing and management tools have been introduced. Perhaps the most important trend has been the adoption of formal project management processes and methodologies.

Management teams stake a great deal of their capital and reputations in forecasting certain metrics for IT projects. These include budgets, timelines, and resources. Meeting targets for such metrics is often the main measure of success in the project management context. And, not surprisingly, conventional project management systems and practices are designed around these metrics.

From basic off-the-shelf software, such as Microsoft Project, for smaller projects to the largest enterprise-scale project management suites from vendors that include Oracle and SAP for multi-million dollar ERP implementations, the approach is basically the same. Timelines and calendars are set, resources detailed, issues tracked, tasks assigned, budgets and financial details documented and performance measured against benchmarks.

The aim is that by setting expectations and then tracking each step in the development process against agreed-upon milestones, project managers can more easily keep projects on track, uncover problems before they can occur, prevent setbacks or, at least, quickly recover from setbacks if and when they occur.

Regardless of how successfully project management systems and processes perform, however, the glaring fact is that companies struggle to effectively deliver on IT projects. The reasons behind this can be summarized as follows.

- Interlocking and conflicting agendas of the customer, software vendors, and system integrators.
- Software vendors whose loyalties are split between customers and integrators.
- Information and decision silos and internal conflicts (“CRM IT Failures”, M. Krigsman, 2009).

The problem is not lack of information. Rather, it is caused by poor or non-existent communication channels through which people who know and people who need to know can interact. Without this, even with the most sophisticated processes and systems, management's ability to identify and respond to risks in a timely fashion is seriously compromised. A viable solution must address these requirements:

- Filter out bias. This ingredient is imperative due to conflicting incentives of the major stakeholders in a large-scale IT project.
- Cut across organizational hierarchies and information silos. A QA engineer in the trenches should be able to surface a potential problem just as easily as a senior project manager.
- Incent the revelation of rare and relevant information.
- It must not only help management identify risks, but also to understand their root causes.
- It must be light-weight and easy to use.

A real-time view into project risk – Crowdcast in action

Crowdcast augments your existing processes and systems with a real-time knowledge feed from everyone involved in the project, including implementation and integration staff, project managers, vendor representatives, internal IT, sponsors, and business process analysts. For key stakeholders, Crowdcast is a dashboard that shows how milestones and other important metrics are tracking relative to targets. For participants, it is an engaging, game-like application that lets them share their insights in an anonymous, well-incented way.

Crowdcast is remarkably powerful, yet simple to understand and use

The stakeholder creates a question and poses it to a group of people who may have opinions on the matter. For instance, a project manager might want to monitor the beta release of an ERP upgrade: “When will the ERP upgrade enter beta?” Participants, or *players*, who have points of view on the question, place bets on the outcome using virtual currency by selecting ranges and giving their bets weights. In the beta date example, someone might select March 5-15 and wager \$2,000. Someone else, with different information, might place a completely different bet.

When the actual ship date becomes known, the system rewards those players whose bets were correct. Those who were incorrect lose their wagers. Over time, people who were more prescient get a louder voice in subsequent questions.

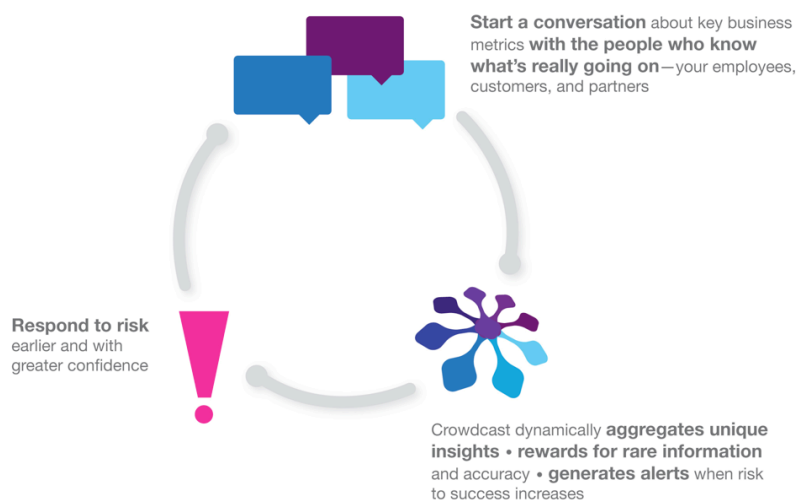


Figure 1: Crowdcast Collective Intelligence Process

How it works

The Crowdcast process enables managers to quickly identify potential project risks, understand their root causes, and proactively take corrective action. Crowdcast is not a replacement for your project management system. Rather, it is a way to get unbiased, accurate information about what's really going on.

To get going, you simply create questions in Crowdcast around key milestones and metrics in your project plan and publish them to everyone involved with the project who may have pertinent knowledge. As bets come in, you monitor the performance these metrics. The system alerts you as soon as metrics are at risk of hitting targets, which lets you take corrective action.

1. **Identify milestones and metrics** in your existing project plan that are pivotal for the success of the project.
2. **Create crowdcasts** – project sponsor or other stakeholder logs in to the Crowdcast platform and creates *crowdcasts* for the key metrics and milestones.

A variety of metrics are suitable from crowdcasting. Use these simple questions serve as selection criteria:

- Can I place a bet with a friend about this metric? In other words, does the outcome become objectively known at a future date?
- Will the actual outcome become known in the not-too-distant future? Budget for a project that's slated to begin in 2025 would be a bad candidate.
- Does knowledge about this metric actually exist and is it dispersed throughout my organization?

In addition to dates, Crowdcast supports numbers, such as units, percents, and currency, and discrete values, "Will we go with vendor A or B or C?"

3. **Invite participants**, or *players*, to share their insights.
 - Once invited, players get email notifications with instructions for how to begin.
 - This step happens mainly as part of system setup. Once players register with the system, they automatically see new questions.
 - Some questions are more sensitive than others, so managers can control access to them via customizable access lists.

4. **Players bet on crowdcasts** where they have relevant information.
 - The system aggregates all bets into a single distribution with a mean and standard deviation, or confidence interval.
 - Players leave comments that give rationale behind their points of view. Collectively, these comments provide a rich context complement to quantitative metrics.
 - Players' bets are anonymous, which is vital for ensuring that the communication channel from the people who know to the people who need to know is free of bias and spin.
 - The system rewards rare and relevant information. If a player knows something that is not incorporated in the crowdcast – for example, an integration engineer applied a patch from the vendor that caused the regression test suite to fail – the potential return on her bet will be high because relative to the crowd this outcome is less likely.

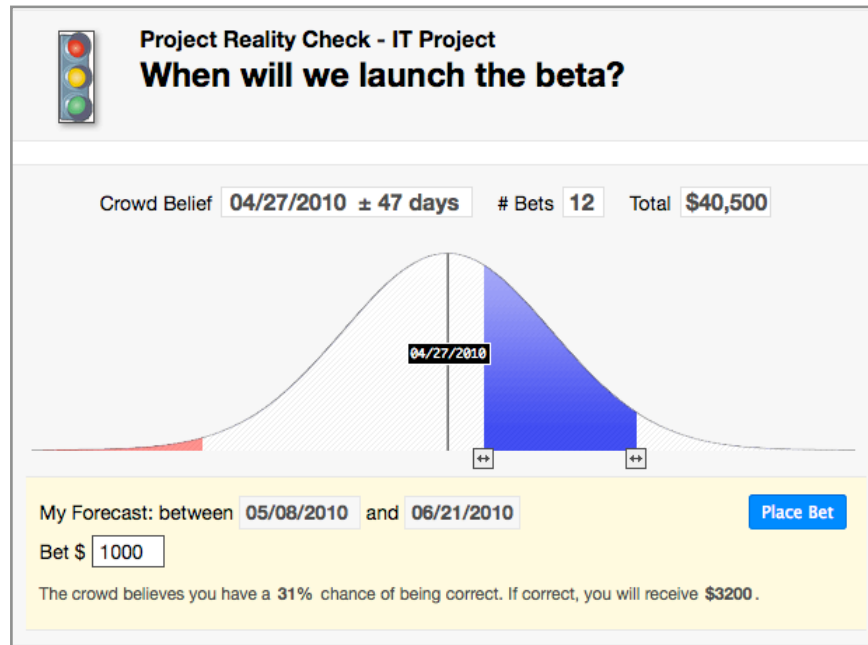


Figure 2: Betting interface

5. Monitor performance.

The system dynamically aggregates all bets into *crowdcasts*, robust, accurate predictions that incorporate everyone’s latest knowledge – expressed as quantitative bets coupled to qualitative comments. Managers track crowdcasts over time using the system dashboard, which alerts them when targets are at risk. Doing so gives them the ability to identify potential risks early, understand their root causes, and take timely, corrective action.







Project Reality Check – IT Project	Crowd Forecast	Target Probability	Bets	Total Invested
How much will it cost?	 \$94k ±5%	93% chance above \$80K	7	\$5023
 When will we launch the beta?	 Apr. 27, 2010 ± 27 days	20% chance before Sept. 1, 2010	13	\$97,302
 Which cloud platform will we use?	 51% Amazon	49% Google	52	\$12,043
What % of users will adopt 3 months after launch?	 77% ±5%	98% chance above 70%	11	\$832

Figure 3: Crowdcast management dashboard

Conclusion

Information Technology systems are integral to business. Putting them in place, however, is not only costly, but also exceedingly difficult to do. While continued and significant innovation in both project management applications and processes has benefited customers, solutions vendors, and integrators, ensuring IT project success has remained challenging.

The gap is risk. An unfettered view into risks around key milestones and deliverables is vital to project success. Yet with large, complex projects that involve many stakeholders, who are geographically dispersed and have conflicting agendas and incentives, visibility into risks remains a major challenge.

Crowdcast is the leading provider of Collective Intelligence solutions that help companies get real-time visibility into the true state of their business and make better-informed decisions. It is a remarkably powerful, yet easy to use early warning system for decision makers, revealing potential risks as soon as information about them becomes known. As risks come to light, Crowdcast enables managers to understand the root causes behind them, take corrective action early and with more confidence, thereby greatly increasing the likelihood of project success.

About Crowdcast

Crowdcast delivers real-time visibility into the true state of your business. Our Collective Intelligence Platform creates crowd forecasts of key metrics by rewarding accurate employee insight. With Crowdcast, leaders make better decisions. Fortune 1000 companies rely on Crowdcast to improve project and portfolio management and to uncover and mitigate strategic and operational risk. For more information, visit <http://www.crowdcast.com>.