Doomed from the Start?

Why a Majority of Business and IT Teams Anticipate Their Software Development Projects Will Fail

Winter 2010/2011 Industry Survey

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Background and Methodology

Geneca surveyed approximately 600 U.S. business and IT executives and practitioners as part of its ongoing research on why teams struggle to meet the business expectations for their projects.

The survey data was obtained through an online quantitative survey conducted in Q4 2010. The survey consisted of 25 closed ended questions and was completed by 596 individuals closely involved in the software development process. An independent market research analyst directed the study's reporting.

Sources for the survey participants include a CIO networking group, a project management professional association, Hoovers/D&B, and attendees to a 2010 CIO trade conference.

Participant Profile

More of the survey participants were characterized as IT executives and practitioners than as representing Business (n=476 vs. 119). Participants represented a range of industries, with the highest concentration in manufacturing and industrial goods (30%). Over half are in organizations with 100-999 employees (52%), but 38% are in organizations with 1,000+ employees. In addition, the sample is split between companies with between $50 million and $1 billion in annual revenue, with the majority being between $100 and $999 million.

Summary of Findings

75% Lack of Confidence in Project Success
Fuzzy business objectives, out-of-sync stakeholders, and excessive rework are key culprits

While research on the high percentage of software project failures is not new, of particular interest with this survey is the high percentage of individuals who anticipate their projects will fail.

75% of respondents admit that their projects are either always or usually "doomed right from the start," including 27% who always feel this way. [Table 10] While many of the responses to the questions in the survey reflect a positive attitude to projects and requirements processes, the survey also reveals critical pain points related to requirements definition and software development practices.

The importance of these findings is especially significant since the majority of respondents believe that their CEOs rate predictability as the most important attribute of an IT team (70%). [Tables 15, 20]

Interestingly, throughout the survey, the responses from IT professionals and their business counterparts are fairly similar. As such, they seem to have many of the same issues and concerns with regard to their projects. The perception is that challenges start at the beginning of a project and reflect difficulty in defining project success. This carries forward to IT and has impact throughout the rest of the project. [Table 13]

This study highlights several factors that contribute to the widespread anticipation of project failure and its impact on project outcomes:

- **Rework wariness:** A glaring fact that has to be a concern for the entire organization is that rework is pervasive. 80% of these professionals admit they spend at least half their time on rework. [Table 21]

  While it would be hard to imagine other professions (your doctor or dentist, for example) spending this much time on rework, most expect IT projects to have at least some rework. However, extensive rework usually occurs when an organization devalues the need for full and complete requirements capture. This mindset usually leads to increasingly expensive fixes throughout the project because requirements are not properly defined and accounted for up front.

  Other factors leading to rework include a lack of commitment by the business to the details of what they need. There may also be a lack of consensus on requirements from all the areas of the organization that touch the solution.

- **Business involvement is inconsistent or results in confusion:** Unfortunately, in some organizations, requirements definition is considered exclusively an IT responsibility, rather than a joint responsibility with the business. Both IT and Business agree that business stakeholders need to be more involved and engaged in the requirements process and that there is often confusion around business needs. A few respondents even report that the Business neglects its role completely and relies on IT to fill in the blanks. [Table 12]

  Sometimes confusion results when the business stakeholders believe they are talking about the same thing and do not realize they're actually in disagreement. When this disparate information is given to IT, the outcomes are almost always disappointing. This ambiguity contributes to the problem of confusing business input.

- **Business is usually or always out of synch with each other about project requirements:** Most survey participants believe that the Business is usually or always out of sync with project requirements (78%). Interestingly, slightly more business professionals admit this shortcoming. [Table 17]

  Needs of the business shift. What was needed at the beginning of a project might not be needed later on. This reality underlines why it is important for the business to stay engaged throughout the project and communicate as early as possible if something isn't working.

  At the same time, IT needs to be flexible. Lack of flexibility can cause the business to feel out of sync with the project. This may explain why more business people in the survey see this lack of flexibility as a problem than their IT counterparts. It is also important to communicate requirements changes to all the stakeholders. If not, almost everyone is out of synch at the presumed end of the project.

- **Fuzzy business objectives:** Slightly more than half of the participants in this study are confident that the business objectives of their IT projects are clear to them (55%). Most of the remaining participants from both audiences admit to being fuzzy about the details related to those objectives. [Table 8]

  While business objectives such as "I want to launch this product in Q4" or "I expect this kind of return" are quite clear to everyone involved, these broad objectives do not always take into account the "on the ground" realities of how business actually works. As a result, commitments get made without knowing how feasible it is to actually get the job done.

- **Confusion around roles and accountabilities:** The greatest barriers to success are seen as confusion around team roles and responsibilities (38%) followed by a lack of common vision on project success criteria (31%). [Table 16]

  Most IT organization can find room to improve practices in this area. While most of the project team knows who is providing requirements and writing specs, a bigger challenge is to identify who is accountable to clarify objectives and create alignment.

  On most projects, it is the role of the Business to own the bigger picture and address the business problems. It is IT's responsibility is to implement and execute on the problems. Opportunities realized or opportunities lost are often linked directly to the level of commitment to clarity around these roles.

- **Requirements definition process not described as articulation of business need:** The negative outcomes are clear when business requirements are gathered improperly, including: Projects taking longer than anticipated (61%), projects not considered a success (57%), and projects exceeding the established budget (43%). [Table 14]

  Negative outcomes can be traced to the finding that less than 20% of participants describe the requirements process as the articulation of business need. [Table 11] Participants are split between characterizing it as "capturing specifications"(42%) and "detailed user interface designs" (40%). The business is more likely to feel the process consists of detailed user interface designs (51% vs. 37% among those in IT).

  Project success necessitates an upfront requirements definition process that reflects a common vision of what the business needs built, the process activities and business scenarios to make that vision a reality, and specifications that translate what business users need to do their job into something that can be built by the team.

Other findings include:

- **Lack of complete agreement when projects are done:** Only 23% of the participants state they are in always in agreement when a project is truly done, leaving the door open for rework, scope creep and disappointment. [Table 18]

  Again, the culprit here is usually ambiguity and confusion around project expectations. It also reflects a lack of metrics that communicate progress and realized value in terms the business understands and appreciates. This can be resolved by consistently measuring progress based on delivered business value rather than technical components.

- **Belief that predictability is achievable:** In general the perception is that teams struggle to deliver on business expectations. However, in spite of the widespread concern about project failure, most people involved in software development still believe that predictability is possible (76%). Regardless of what they personally think, these people also believe that their CEOs rate predictability as the most important attribute of an IT team (70%). [Tables 15, 20]

  Most respondents are aware that the noise around success criteria makes it difficult to consistently deliver on expectations. Achieving predictability starts with a consensus on the definition of success. Next, it takes leadership committed to setting their teams up for success and removing obstacles.

- **IT is a "trusted partner and critical to the company's success."** While most IT (76%) and Business (72%) respondents hold IT in high regard, both audiences also suggest that there are problems with the relationship that need to be addressed: IT doesn't build what the business asks for, projects are always over budget or take too long, and IT needs to provide more warning when a project is going to be over budget or late. [Table 9]

    Because the business often feels that they may not get what they need, confidence can be gained only when the business gets visibility into when things will be done, in a language that is meaningful to them.

Detailed Findings

A. Company Demographics

Table 1: Job Function: Nearly a third of respondents identify themselves as an IT Director/IT Executive (29%), followed closely by CIO (25%). Nearly half of the Business participants indicate they are in business management (48%) and nearly as many say they are product managers (38%).

What is your job function?	Total	IT	Business
IT Director/Executive	30%	35%	-
CIO	25%	32%	-
PMO/Project Manager	9%	12%	-
Director of Application Development	6%	7%	-
Architect	4%	6%	-
Business Analyst	3%	4%	-
Software Developer	3%	4%	-
Business Management	9%	-	48%
Product Manager	8%	-	38%
CEO	3%	-	14%
Base Size	**594**	**476**	**119**

Table 2: Industry: Participants are spread across a variety of industries, led by nearly one-third who say they work in manufacturing/industrial goods (30%). Nearly a quarter of business respondents work in the financial/insurance industry (24%).

What is your industry?	Total
Manufacturing/Industrial Goods	29%
Financial/Insurance	15%
Professional Services	12%
Technology	11%
Consumer Goods	10%
ecommerce	7%
Healthcare	6%
Logistics/Distribution	5%
Retail	4%
Utilities	1%
Base Size	**581**

Table 3: Company Size: Over one-third of the sample work for companies with 1,000 or more employees (38%), while over one-half report working for a company of 100-999 employees (52%).

How large is your company?	Total
0 - 499 employees	34%
500 - 999 employees	28%
1,000 - 4,999 employees	22%
5,000 - 9,999 employees	11%
10,000+ employees	5%
Base Size	**593**

Table 4: Company Revenue: Most of the participants are split between working for companies with annual revenues in excess of $500 million (40%) and $100-499 million (41%).

Indicate your company's total annual revenue.	Total
$1 billion or more	14%
$500 - $999 million	26%
$100 - $499 million	41%
$50 - $99 million	14%
Less than $50 million	5%
Base Size	**565**

Table 5: Team/Department Size: About the same number of participants work in development teams or departments of 50-99 employees (30%) and 25-49 employees (32%). Fewer report working in an environment with far larger or smaller staffs (100+: 12%, under 25: 26%).

How large is your development team or department?	Total
100 or more employees	12%
50 - 99 employees	30%
25 - 49 employees	32%
10 - 24 employees	19%
Less than 10 employees	7%
Base Size	**592**

Table 6: Number of Projects: Approximately half of respondents work on 10-19 custom software development projects per year (47%). An additional 34% note that they are involved in 20 or more projects annually.

Approximately how many custom software projects does your team work on a year?	Total
20 or more projects	34%
10 - 19 projects	46%
5 - 9 projects	16%
Less than 5 projects	4%
Base Size	**596**

B. The Business/IT Relationship

Table 7: Meeting Expectations: Only slightly more than half of respondents (54%) say their team is "successful for the most part" in delivering projects that meet business expectations, that is, achieving 70%-89% of their goals. Only 19% of the total sample sees their teams as "very successful" (achieving 90%-100% of goals), with those on the Business side of these organizations more likely to feel this way (33% vs. 16% among those in IT).

How successful is your IT team in delivering projects that meet business expectations?	Total	IT	Business
Very successful (90-100% of goals achieved)	19%	16%	33%
Successful for the most part (70-89% of goals achieved)	54%	55%	47%
Somewhat successful (50-69% of goals achieved)	21%	22%	18%
Not very successful (25-49% of goals achieved)	5%	6%	2%
Never successful (0-24% of goals achieved)	<1%	<1%	0%
Not sure	1%	1%	0%
Base Size	**591**	**470**	**118**

Table 8: Understanding of Business Objectives: Only a little more than half of respondents say that the business objectives their IT projects are expected to support are "very clear," both conceptually and in the details (55%). Most of the rest of the participants admit they are unsure of the details of these objectives. Interestingly, IT and Business express a similar degree of understanding of the business objectives associated with their IT projects.

How well do you understand the business objectives your IT projects are expected to support?	Total	IT	Business
Very clear to me, both conceptually and in the details	54%	54%	53%
I am aware of the general business objectives but unsure of the details	40%	39%	43%
I am only peripherally aware of what the business wants to achieve with my projects	5%	6%	4%
Not sure	1%	1%	0%
Base Size	**588**	**471**	**114**

Table 9: Business View of IT: Three-fourths of IT (76%) and Business (72%) respondents agree that IT is a "trusted partner and critical to the company's success." At the same time, a number of IT people assume that their business colleagues believe that "IT doesn't build what the business asks for" (42%), "projects are always over budget and take too long" (33%), and "IT needs to provide more warning when a project is going to be over budget or late" (28%).

Which of the following best describes how your business counterparts view IT?	Total	IT	Business
*Multiple responses accepted			
IT is a valued, trusted partner and critical to the company's success	75%	76%	72%
IT doesn't build what the business asks for	42%	42%	42%
Projects are always over budget and take too long	31%	33%	25%
IT needs to provide more warning when a project is going to be over budget or late	26%	28%	17%
Not sure	1%	2%	1%
Base Size	**592**	**471**	**118**

C: Requirements Definition Process

Table 10: Perceptions of Project Fate: Most people believe that their IT projects are either always or usually "doomed" from their onset (75%). In fact, 27% feel that their IT projects are "doomed" from the very beginning, including 41% of those from the business.

How often do you feel that your project is doomed right from the start? For example, is there confusion around project goals, roles or accountabilities that remain unsolved?	Total	IT	Business
Always	27%	24%	41%
Usually	48%	49%	41%
Occasionally	18%	21%	7%
Never	7%	6%	11%
Base Size	**587**	**469**	**116**

Table 11: Describing the Requirements Definition Process: When describing their company's requirements definition process, participants are split between characterizing it as "capturing specifications"(42%) and "detailed user interface designs" (40%). The Business is more likely to feel the process consists of detailed user interface designs (51% vs. 37%), indicating that the business may be frustrated with the technical nature of the process. Unfortunately, less than 20% of participants describe the requirements process as the articulation of business need.

How would you describe the requirements definition process in your company?	Total	IT	Business
Capturing specifications	42%	43%	41%
Detailed user interface designs	40%	37%	50%
Articulation of the business need followed by scenarios defined in business terms	17%	19%	9%
What's that?	1%	1%	0%
Base Size	**588**	**470**	**116**

Table 12: Business Involvement in Requirements Process: Only 33% think the business is "actively involved to ensure their needs are captured and delivered." While almost half of the total sample indicates that the Business side of the company is "involved (in the requirements process), there is often confusion around what they ask for" (44%). Interestingly, the Business is slightly less likely to concur that its involvement is sufficient and clear.

What one statement best describes the business stakeholders' involvement in your requirements process?	Total	IT	Business
The business is actively involved to ensure that their needs are captured and delivered	33%	34%	28%
The business is involved but there is often confusion around what they are asking for	43%	43%	49%
The business is somewhat involved but does not remain engaged in the project	19%	19%	20%
The business is extremely busy and leaves the requirements process up to IT	4%	3%	3%
Not Sure	1%	1%	0%
Base Size	**588**	**470**	**116**

Table 13: Frustration in Requirement Definition Process: The greatest frustration related to this process is "getting the business to clearly state and commit to project objectives" (46%). Additionally, nearly a third say there is a "lack of clarity around team roles and accountabilities" (30%), while 15% note the "inability to track project progress in terms that make sense to all stakeholders." There is a clear need for the Business to get more involved in the requirements process, clearly state their project objectives and commit to staying involved throughout the development cycle.

What do you find most frustrating about your requirement definition process?	Total	IT	Business
Getting the business to clearly state and commit to project objectives	46%	46%	44%
Lack of clarity around team roles and accountabilities	30%	29%	34%
Inability to track project progress in terms that make sense to all stakeholders	15%	15%	17%
Unrealistic budget and/or time restraints	6%	7%	2%
Lack of staffing	3%	3%	3%
Base Size	580	464	114

Table 14: Problems with Gathering Business Requirements: Both audiences agree that multiple problems come from poorly gathered business requirements. Many agree that the project "takes longer than estimated to be completed"(61%) and "will not be considered an overall success" (57%). Nearly half feel the "project will go over the established budget" (43%, higher among IT than business: 47% vs. 25%), while 27% agree that the result is that the "project fails to delivered the desired capabilities."

What problems result from inadequately or improperly gathered business requirements?	Total	IT	Business
*Multiple responses accepted			
The project takes longer than the estimated time to be completed	61%	62%	54%
The project will not be considered an overall success	57%	56%	60%
The project goes over the established budget	43%	47%	25%
The project fails to deliver the desired capabilities	27%	29%	19%
Business confidence in IT suffers	18%	19%	11%
Base Size	588	470	116

D. General Concerns

Table 15: Predictability in Software Development: In spite of the widespread anticipation of project failure, most people involved in software development tend to believe that predictability is still possible (76%).

Do you think predictability in software development is achievable?	Total	IT	Business
Yes	76%	74%	84%
No	11%	11%	10%
In certain situations	12%	14%	4%
Not sure	1%	1%	2%
Base Size	580	463	115

Table 16: Greatest Barrier to Successful Projects: When identifying the greatest barrier to delivering successful custom software projects, respondents are divided between "confusion around team roles and responsibilities" (38%) and a "lack of a common vision" (31%).

What would you say is the single greatest barrier to delivering successful custom software projects?	Total	IT	Business
Confusion around team roles and responsibilities	38%	38%	39%
Lack of a common vision on project success criteria	31%	31%	32%
Too little time, too few resources	17%	16%	21%
Lack of direction from management	10%	12%	3%
Lack of technical ability	4%	3%	5%
Base Size	588	468	117

Table 17: Consensus of Business on Project Requirements: Over three-fourths of participants feel that the business team is "always" or "usually" out of sync with each other when it comes to project objectives (78%). This response includes 25% who feel the business team is "always" out of sync, even higher among Business professionals (43% vs. 21% for IT professionals). This is a very common problem and even Business admits the situation occurs too often.

How frequently do you feel that the business team is out of sync with each other when it comes to project requirements?	Total	IT	Business
Always	25%	21%	43%
Usually	53%	55%	45%
Occasionally	21%	23%	12%
Never	1%	1%	0%
Base Size	579	462	115

Table 18: Agreement on Project Completion: Only 23% of participants feel that Business and IT always agree on when a project is truly completed, opening the door to rework, missed deadlines and scope creep.

How often does Business and IT agree on when a project is really done?	Total	IT	Business
Always	23%	23%	22%
Usually	66%	67%	67%
Rarely	10%	10%	10%
Never	1%	<1%	1%
Base Size	578	460	116

Table 19: Satisfaction with Outsourced Software Development Projects: Satisfaction with the outcome of outsourced projects is moderately high, but only 23% are always satisfied, leaving room for improvement. Interestingly, the Business is more likely to always be satisfied (35% vs. 20% among IT).

If you have outsourced (offshore or onshore) software development projects, how would you rate your level of satisfaction with the results?	Total
I am always satisfied with the results	23%
I am usually satisfied	51%
I am occasionally satisfied	21%
I am rarely satisfied	4%
"I can't get no satisfaction"	1%
Base Size	572

Table 20: Most Important Attribute of an IT team (CEO perspective): When asked what their CEO feels is the most important attribute of an IT team, the assessment is split between the "ability to deliver predictability" (70%) and "getting the project done on time" (63%). Far fewer participants believe that "not breaking the budget" is their CEO's priority for the IT team.

What would your CEO say is the most important attribute of an IT team?	Total
*Multiple responses accepted	
The ability to deliver predictability (no surprises)	70%
Getting the project done on time	63%
Not breaking the budget	17%
Base Size	**568**

Table 21: Time Spent on Rework: 80% of respondents admit that at least half of their time is consumed with rework that could be avoided or at least minimized. Only 21% indicate that a small portion or less of their time is spent in this area.

How much time do you believe you spend on rework, i.e. revisiting and changing requirements, adding missed features, etc.?	Total
All of my time	21%
Most of my time	40%
About half of my time	19%
A small portion of my time	15%
Rarely	6%
Never	<1%
Base Size	**585**

Table 22: Degree of Defined Roles and Accountabilities: While nearly all agree at least to some degree that their role has been clearly defined (89%), lack of clearly defined roles is viewed as a major barrier to project success. Business professionals are more likely to say "yes" to this query than their IT counterparts (74% vs. 60%).

Have your supervisors clearly defined your role and its associated accountabilities?	Total	IT	Business
Yes	62%	60%	74%
To some degree	27%	28%	21%
No	9%	10%	3%
Not sure	2%	2%	3%
Base Size	**586**	**467**	**117**

Conclusion

This research reminds us that problems lurking below the surface of most software projects cause many professionals to have little confidence that their projects will ultimately satisfy all concerned. Most of these problems fall into the following categories:

- Too much rework and scope creep
- Inconsistent business involvement
- Business stakeholders out of sync with each other
- Fuzziness on project objectives
- Unclaimed accountability for the "bigger picture"

As evidenced, these problems are interconnected, and when left unchecked, create a cascading effect that compromises team performance and erodes the ability to predictably deliver successful projects.

Most software projects begin with much promise and high expectations. However, commitments are often made too quickly without a collaborative view of project success. Confusion around business expectations starts early in the project, is transferred to IT and carried forward throughout the project. All of these factors cause teams to anticipate road blocks and for big expectations to become bigger disappointments.

The Way Forward: "This Time We Will Do It Differently."

There's a good chance that many of us have been staring at these problems all along and just need to understand what we are seeing and what to do about it. Take a hard look at your own processes and ask how you can help facilitate:

1. Communication of clear business objectives
2. Measurement of project results against business objectives
3. Ownership of the project goals vs. design of the solution
4. Collaboration between the business and IT to drive alignment
5. A common vision across every part of the organization involved

Acknowledge and validate your team's uncertainty about project success. Then commit to doing what is necessary to set your team up for for success. Rather than letting your team bank on having problems, get them excited about the prospect of success by arming them with new practices to get there.

About Geneca

The ability to deliver a predictable services experience is one of the great challenges facing the software consulting industry.

We believe that predictable software development is achievable. It requires an understanding of how to create a common vision of success. It means empowering talented people to do great things. Most of all, it takes a willingness to make and honor commitments.

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