Survey Report
Project Success & Test Outsourcing

By Trevor Atkins   **September 9, 2010**

This summer, we put out a quick 10-question survey regarding software development and outsourcing or contracting of testing services.

The intention of the survey was to use the responses to paint a picture of the attitude or approach towards outsourcing of testing in comparison to how organizations seek success for their projects and teams.

In general it was hoped that the responses might indicate that:

- Organizations were looking beyond hourly rates to the total value that was being delivered by contract service providers (eg: productivity, increased capability/capacity, organizational planning and execution improvements, bottom-line impact).
- Organizations were seeking solutions that: were more than just bodies to add to a project team; provided strategic thought leadership rather than just execution on assigned tasks; built a relationship with a partner specialized in delivering specific value-adds.
- Organizations were open to looking beyond the confines of their own offices to find much needed support such that not all of the team members needed to be co-located in order to be effective.
- Organizations were extracting the benefit of up-front thinking about risks and constraint trade-offs by investing into test strategy and effort estimation planning activities.

Not all of these expectations were fully supported in the responses, suggesting that there is still significant opportunity for improvement benefits. However the responses provided a picture of a stronger focus on quality and testing activities than would have been expected 10 years ago.

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Executive Summary

Observations from reviewing the various responses to the survey questions are made in the form of simple comments or as possible areas or topics an organization might investigate for potential returns on improvement efforts.

The following are highlights of these opportunities for improvement:

- Review your governance processes and your organizational structure and interfaces for areas that can be improved to facilitate stronger communication and ownership of quality, and project success across the SDLC – even if your organization cannot or does not intend to leverage outsourcing.
- Review your product lines or system lifecycles for strategic opportunities where a well-designed functional automation, performance testing, and test data management approach can bring substantial value beyond the lifetime of an individual release or project.
- Investigate establishment of a project success measurement set that includes items beyond schedule, budget and features such as customer satisfaction and the Total Cost of (poor) Quality.
- Investigate areas within the organization or the SDLC where a partner specializing in specific activities or services could provide value with such return on investment that evaluation criteria would go beyond comparison of contractor resumes and hourly rates.
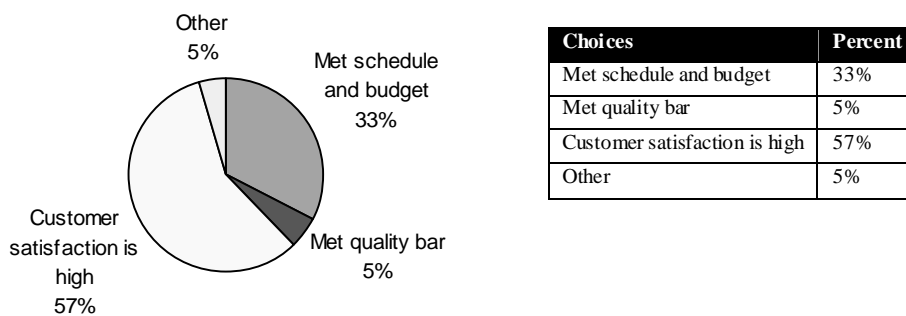
Detailed Results and Observations

The following information was collected from the respondents to the survey. Comments on particular aspects of the responses or their possible implications have been provided. In the case where an average is provided, the value is calculated based on assigning a value of 1 for each response in the first column and 2 to the next and 3 to the next and so on.

Note: The number of respondents was less than one hundred individuals. No scrubbing or dicing of responses based on industry, location, or role of respondents has been done.

Question: What is the top consideration for your organization when measuring success of a given project (scope of work)?

Results:

Choices	Percent
Met schedule and budget	33%
Met quality bar	5%
Customer satisfaction is high	57%
Other	5%

Comments: There were very few responses for "met quality bar". Perhaps this supports the idea that quality is in the eye of the beholder and if the customer is happy then that is a "quality" project.

Meeting SLA's and having high sales were notable mentions under the "other" category, and though possibly attributable to customer satisfaction, they represent a model that would be driven and measured differently.
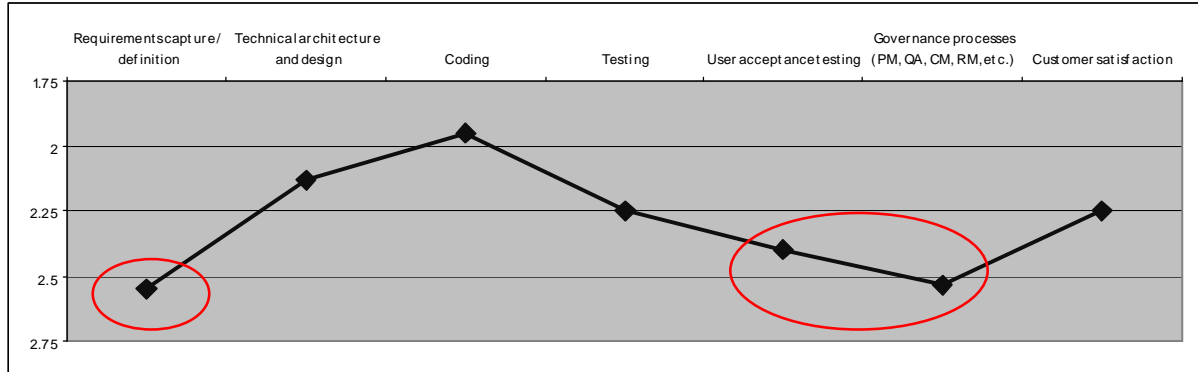
Related Materials:

- http://www.silverpath.com/resources/Silverpath-MetricsThinkingInNDimensions-090226.pdf

Question: Rate the relative strength of your organization in the following activities in the context of your software development lifecycle

Results:

Choices	Very Strong	Good Enough	Could Improve	Needs Improvement	Average
Requirements capture / definition	17.5%	27.5%	37.5%	17.5%	2.55
Technical architecture and design	25.0%	42.5%	27.5%	5.0%	2.13
Coding	37.5%	35.0%	22.5%	5.0%	1.95
Testing	30.0%	20.0%	45.0%	5.0%	2.25
User acceptance testing	15.0%	40.0%	35.0%	10.0%	2.4
Governance processes (PM, QA, CM, RM, etc.)	15.0%	35.0%	32.5%	17.5%	2.53
Customer satisfaction	22.5%	40.0%	27.5%	10.0%	2.25

Comments: The core activities related to the production of the actual software are rated strongly, as opposed to testing with 50% of respondents indicating improvement is possible or required.

The relative low rating for requirements and user acceptance testing is something that would be expected to contribute to difficulty in achieving high customer satisfaction and this seems to be reflected here. Stronger, but not necessarily more formal/bureaucratic, governance process could potentially raise the mediocre rating of the testing effort as well as increase overall project success/customer satisfaction.
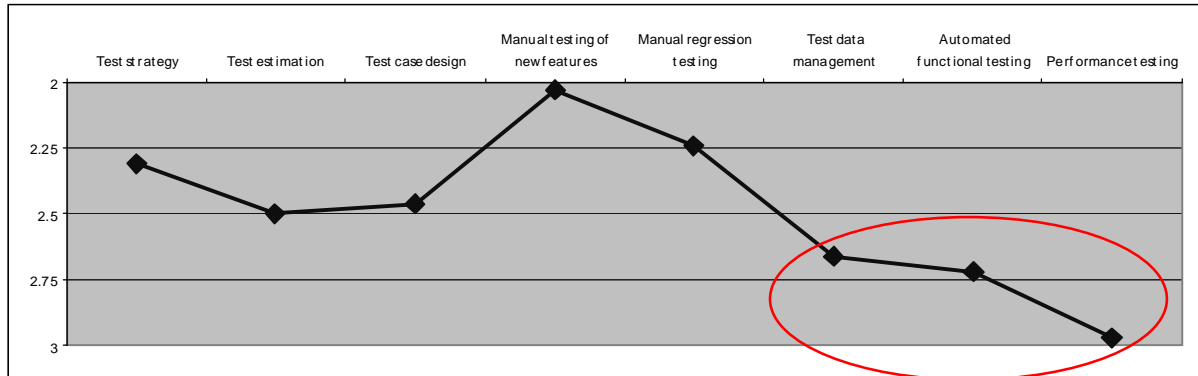
Related Materials:
- http://www.silverpath.com/resources/Silverpath-UserAcceptanceTestingWhitepaper-090203.pdf
- http://www.silverpath.com/resources/Silverpath-VisibilityOfValueWhitepaper-090505.pdf

Question: Rate the relative strength of your organization in the following testing activities

Results:

Choices	Very Strong	Good Enough	Could Improve	Needs Improvement	N/A	Average
Test strategy	17.5%	40.0%	32.5%	7.5%	2.5%	2.31
Test estimation	10.0%	37.5%	37.5%	10.0%	5.0%	2.5
Test case design	5.0%	47.5%	32.5%	7.5%	7.5%	2.46
Test data management	7.5%	27.5%	50.0%	10.0%	5.0%	2.66
Manual testing of new features	27.5%	45.0%	15.0%	7.5%	5.0%	2.03
Manual regression testing	17.5%	45.0%	20.0%	10.0%	7.5%	2.24
Automated functional testing	17.5%	15.0%	20.0%	27.5%	20.0%	2.72
Performance testing	5.0%	25.0%	30.0%	32.5%	7.5%	2.97

Comments: A significant number of responses indicated that functional automation is missing from or not applicable to their projects. More indicated that automation, performance testing, and test data management all need improvement or could be improved. These activities are interlinked and so suggest a specific area of opportunity for organizations to benefit from a well-planned/designed solution.

Planning activities such as estimation, test strategy and test design are ranked on average as "could be improved", suggesting that though there is generally a feeling of strength in regards to the effectiveness of manual testing for new features and regression, that the efficiency of those activities, and the test effort overall, could be improved.

Related Materials:
- http://www.silverpath.com/resources/testingthroughoutsdlc.htm
- http://www.silverpath.com/resources/Silverpath-EstimatingTestEffortWhitepaper-080812.pdf

Question: Rate the importance for your organization of team members having domain expertise for each of the following activities

Results:
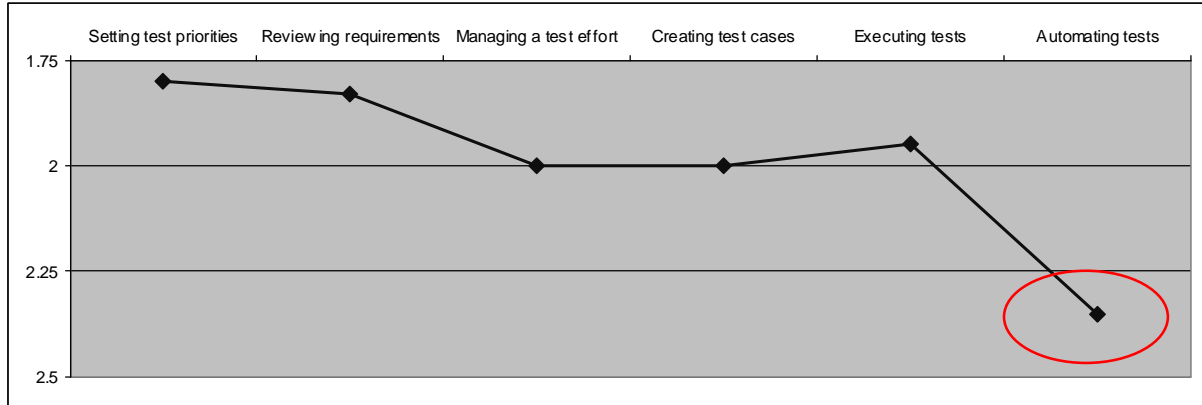
Choices	Must be Expert (1)	Must be Knowledgeable (2)	Not Required though Nice-to-have (3)	Average
Setting test priorities	30.0%	60.0%	10.0%	1.8
Managing a test effort	15.0%	70.0%	15.0%	2.0
Reviewing requirements	30.0%	57.5%	12.5%	1.83
Creating test cases	15.0%	70.0%	15.0%	2.0
Executing tests	22.5%	60.0%	17.5%	1.95
Automating tests	10.0%	45.0%	45.0%	2.35

Comments: Though a substantial number of respondents felt that domain expertise was not critical for automation activities, a majority still felt that strong or expert knowledge is needed, perhaps under the assumption that well-designed test cases/scenarios would not be available to those team members from which to build the scripts.

Feeding the automation effort with test cases/scenarios designed to scale to eventual automation can remove a significant part of the need for automators to interpret, fill in the blanks or otherwise decide what will actually be tested.

Related Materials:
- http://www.silverpath.com/resources/Silverpath-TestAutomationBusinessCase-091101.pdf

Question: What would motivate your organization to outsource any part of your software development lifecycle?

Results:
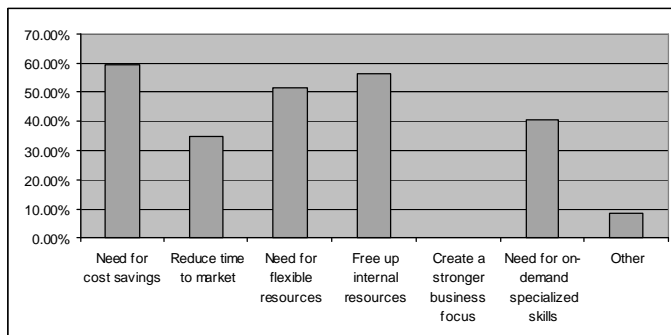
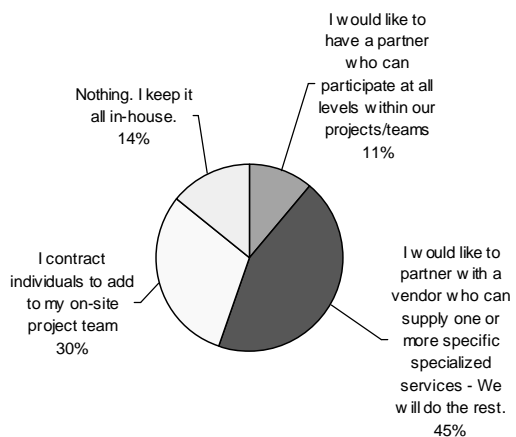| Choices	Percent
Need for cost savings	60%
Reduce time to market	35%
Need for flexible resources	51%
Free up internal resources	57%
Create a stronger business focus	0%
Need for on-demand specialized skills	41%
Other	8%

Comments: Three areas held a comparable number of responses for this question: cost savings; freeing up internal resources; and accessing flexible/scalable resources. Each of these areas is typically prioritized by an organization in terms of budget and resource management drivers rather than in terms of project success or quality improvement opportunities.

Accessing on-demand specialized skills and even creating a stronger business focus (which was not chosen even once) would indicate a deliberate choice by an organization to specialize internally and leverage other groups or organizations to obtain non-strategic or non-core functions in a more cost efficient manner. Responses to following questions also support the idea that there is an opportunity for organizations to strategically rethink their approach or attitude on how to use outsourcing versus simply bringing in additional bodies for a specific project deadline.

"My company just doesn't outsource" was the most notable mention under the "other" category in this question suggesting an opportunity to internally review/improve the configuration of groups and their interfaces/interactions to gain benefits as if outsourcing were to be seriously pursued – ie: an organization does not actually have to outsource to gain some of the benefits of structuring to do so.

Question: What type of relationship would your organization look for with a test services outsourcing vendor?

Results:

Choices	Percent
I would like to have a partner who can participate at all levels within our projects/teams	11%
I would like to partner with a vendor who can supply one or more specific specialized services (eg: regression testing, functional automation, performance testing, UAT management) - We will do the rest.	45%
I contract individuals to add to my on-site project team	30%
Nothing. I keep it all in-house.	14%

Comments: The desire to have a partner to provide specialized services would seem to be the more appropriate use of outside groups for a given organization. Ideally that partner should be able to participate in discussions at all levels within the project or team as well, however there would not be the expectation that the partner be able to undertake all of those tasks or activities – and this seems to be the same thinking expressed in the majority of the responses to the question.

However, the responses are almost split between that response and the choice of contracting of individuals or not seeking outside support at all. Perhaps this suggests a division in the types of the respondents' organizations as much as a division in the opinion on where and how to leverage specialized service groups.

Question: Rate the importance of each of the following to your organization when selecting an outsourcing partner for the scope of testing services you selected in the previous question

Results:
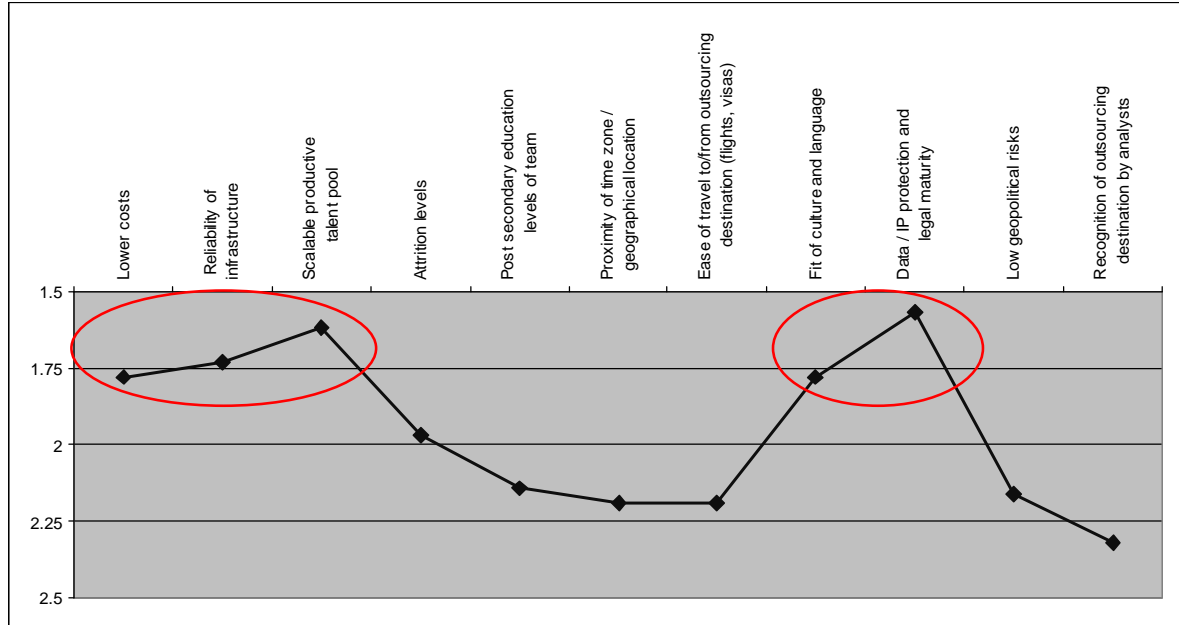
Choices	Very Important	Somewhat Important	Not Important As Others	Average
Lower costs	37.8%	45.9%	16.2%	1.78
Reliability of infrastructure	45.9%	35.1%	18.9%	1.73
Scalable productive talent pool	51.4%	35.1%	13.5%	1.62
Attrition levels	27.0%	48.6%	24.3%	1.97
Post secondary education levels of team	16.2%	54.1%	29.7%	2.14
Proximity of time zone / geographical location	18.9%	43.2%	37.8%	2.19
Ease of travel to/from outsourcing destination (flights, visas)	21.6%	37.8%	40.5%	2.19
Fit of culture and language	48.6%	24.3%	27.0%	1.78
Data / IP protection and legal maturity	59.5%	24.3%	16.2%	1.57
Low geopolitical risks	13.5%	56.8%	29.7%	2.16
Recognition of outsourcing destination by analysts	5.4%	56.8%	37.8%	2.32

Comments: Ease of physical access and recognition or reputation of a candidate vendor got the fewest points, suggesting that though some items are ranked relatively low, the higher ranked items are just more important, not that the lowest are unimportant.

The highly ranked combination of cultural fit, scalable talent, data/IP protection and legal maturity, reliable infrastructure, and lower costs suggests that a managed multi-location or "hybrid" model may be best when engaging with an outsourcer so as to be able to more easily meet these requirements along with the other "less" important criteria.

Question: How would your organization measure the cost savings from employing your selected test services vendor?

Results:
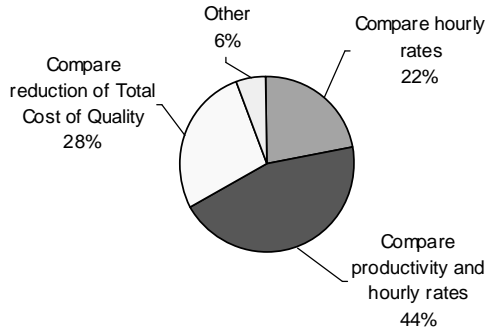
Choices	Percent
Compare hourly rates	22%
Compare productivity and hourly rates	44%
Compare reduction of Total Cost of Quality	28%
Other	6%

Comments: The majority of respondents indicated that they look beyond the simple hourly rate. However, most are not measuring the total impact on the organization that retaining an outside group can have.

"Not applicable" was the most notable mention under the "other" category in this question suggesting perhaps that, for organizations without outsourcing, efforts will be evaluated only indirectly via headcount limits and budget constraints.

Related Materials:
- http://www.silverpath.com/resources/testingthroughoutsdlc.htm

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Question: What would your organization consider most important when evaluating the value-add of a vendor of testing services?

Results:
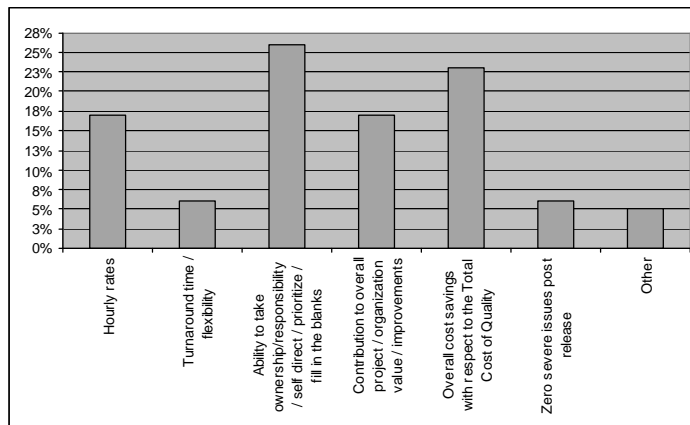
Choices	Percent
Hourly rates	17%
Turnaround time / flexibility	6%
Ability to take ownership/responsibility / self direct / prioritize / fill in the blanks	26%
Contribution to overall project / organization value / improvements	17%
Overall cost savings with respect to the Total Cost of Quality	23%
Zero severe issues post release	6%
Other	5%

Comments: The responses to this question seem to be in alignment with the responses to the previous question where most indicate that a partner with expertise and capability is most desired, but hourly rates will also be a big influence.

"Not applicable" was also the most notable mention under the "other" category in this question.

Conclusion

In general, the survey responses supported the feeling that the software industry has advanced in the last 10 years with respect to its attitude towards project success, customer satisfaction and quality, and including outsourcing of testing as part of the solution to that success. It is still clear that some organization have the opportunity to see significant improvement benefits by reviewing how they are structured internally and how they conduct their quality and test efforts whether there is the intention to outsource or not.

In considering outsourcing, carefully examine what should remain in-house or on-site versus what could be done with a commodity or solution-based approach (eg: instead of outsourcing a dozen positions outsource the regression testing of your legacy product-line).

In this vein, we recently outlined a quality approach to one local company where the solution was built around identifying the different components that made up the expressed goal, determining the skills or qualifications that would be needed for each of those components, grouping them into roles or activity sets, and then identifying the source/form of the solution. For example, one possible solution took the form of:

- A part-time senior consultant to supply thought leadership, assist in coordination of and between team members, oversight and course correction, champion initiatives to achieve the goals,
- A services firm to undertake certain defined specialized tasks in-parallel with project work, such as functional automation smoke test, performance testing, and scripted manual regression testing, and
- An intermediate tester hired full-time to test new features and run the automated tests, investigate and isolate bugs; working side-by-side with the developers to draw out their contribution and input on the quality side in an agile-minded manner with respect to prevention and appraisal of quality issues.

Crafting such a multi-faceted solution aims to provide benefits on a combination of fronts such as cost efficiency, capacity scalability, optimized communication, domain expertise capture/retention, specialized skills access, centralized strategic planning and accountability, etc.

Perhaps there is such an opportunity to identify and organize the teams, their activities and processes within your organization to realize such benefits as well, enabling a greater capability for overall project success.

About the Author

Trevor Atkins is Principal Consultant with Silverpath Technologies (http://www.silverpath.com). Prior to that he was the west-coast Regional Director of Quality Services with UST Global and was a founder/VP Operations of QA Labs Inc., once the largest independent software testing company in Canada.

Trevor has been involved in literally 100's of software projects over the last 14+ years and has a demonstrated track record of achieving rapid ROI for his customers and their business. Experienced in all project roles, Trevor's primary focus has been on planning and execution of projects and improvement of the same, so as to optimize quality versus constraints for the business

About Silverpath Technologies Inc.

Silverpath Technologies provides results-centric testing, consulting and training services, where the focus of each engagement is driven by the emphasis on improving the effectiveness and efficiency of the customer's quality and testing activities across the software development lifecycle. Visit http://www.silverpath.com for more information.