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Case Study: Infosys Technologies Helps Develop A TCOE For Telecom New Zealand

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EXECUTIVE SUMMARY

To build a test center of excellence (TCOE) on time and on budget, Telecom New Zealand (TNZ) knew it needed a partner with the expertise required to ensure success. TNZ was seeking a good cultural fit, an understanding of the telecommunications industry, leadership in testing best practices, and willingness to exceed expectations. After looking at various other industry offerings, TNZ chose Infosys Technologies to help guide its in-depth process of designing a TCOE, preparing the organization for the new TCOE, and executing the plan. Working with outside experts to change testing practices is always challenging, and the lessons TNZ learned are valuable to anyone seeking to leverage a partner to develop more-efficient testing practices. Success in improving quality practices requires visible internal representation to manage change, maintain strong and continuous communication to avoid alienating employees, and challenge your partners to speak with a clear and strong voice throughout the process.

SITUATION: TNZ DECIDED TO DEVELOP A TCOE WITH THE HELP OF INFOSYS TECHNOLOGIES

Tasked with improving delivery assurance, Telecom New Zealand (TNZ) needed to build a test center of excellence (TCOE) in a very short time period beginning in August 2009. To avoid financial penalties totaling NZ\$10 million, the firm had to present an established test center capability to the New Zealand Minister for Communications by December 31, 2009. To comply with regulations requiring a level playing field for competing bids, TNZ had to reconfigure its systems to enable the support of competing telco providers for a variety of services, including retail broadband and public switched telephone networks (PSTN). It proved challenging to improve the testing stage for more than 20 different applications, ensuring not only that new applications worked but also that legacy applications worked with the new ones. TNZ placed a further constraint on the project as well: It didn't want to outsource any of the work — its goal was to keep all quality software testing in house.

Experience Is A Must In Successfully Developing A TCOE

Initially, TNZ tried to develop its own TCOE, but it quickly realized that it needed some expert help to accelerate the process. TCOEs were (and are) a widely available offering from test outsourcing vendors. With so many organizations able to offer assistance in creating a TCOE, TNZ had to determine the best fit for its organization. After sending a request for information (RFI) to leading testing organizations, TNZ narrowed its search to four global services companies that have testing practices. TNZ ultimately chose Infosys Technologies as the expert resource to engage for help in building a TCOE. Factors that influenced TNZ's choice of Infosys Technologies included:

- **Good references relating to the company's TCOE goals and geography.** Infosys demonstrated experience in the telecommunications industry that included expertise in testing telecommunications software. This experience saved vital development ramp-up time that could have endangered the project deadline. Another of Infosys' advantages was that its experience in this area crossed numerous geographies.
- **A good cultural fit.** Cultural fit is critical in enabling two different organizations to work together in a team environment. In partnerships that involve more than one culture — whether for geographical or corporate reasons — stakeholders must exhibit sensitivity and understanding. Representatives of both companies were trained to better understand the Indian and New Zealand cultures, which reduced — though did not entirely remove — cultural resistance.
- **Thought leadership and innovation.** Given the strict deadline, TNZ needed a partner that would bring best practices and efficiencies to the development process, reducing time and cost in a supportive and open manner.
- **A solution that exceeded expectations.** With four competing vendors, TNZ needed a solution that would go beyond what it strictly required without adding unnecessary costs or time. Infosys brought ideas and best practices that would ultimately reduce costs and time.

TCOE SUCCESS DEPENDED ON A SMOOTH TRANSITION

In August 2009, TNZ began to utilize Infosys' expertise and methodologies to meet its goals and expectations. Infosys offered TNZ the leverage it needed to achieve success by using its own established development principles while also incorporating TNZ's own internal best practices where applicable. To establish the TCOE and make it successful, TNZ and Infosys worked together to:

- **Obtain clear support from the top through executive sponsorship.** If the TCOE was to be successful, it needed clear support from leadership. Organizations often resist change when an outsider comes in and questions existing ideas, but knowing that executives are fully behind the stakeholders driving improvements helps ensure quick resolution of issues and continued budget support to keep the process on track.
- **Establish a champion within TNZ.** TNZ's champion was Darren Webber, head of test services for technology operations. As the champion for this project, Mr. Webber lived and breathed everything about building TNZ's TCOE. When the process became difficult, he played a key role in motivating teams to get projects over the line.
- **Set up a shop at the heart of the project.** Infosys moved its people into TNZ's office, which enabled them to understand and adapt to TNZ culture and become cohesive members of the development team. The TCOE transition team no longer consisted of two companies working on a solution; it became a united front on the development team, which allowed for a speedier process.

- **Avoid the mentality of “my way or the highway.”** Infosys was flexible and understanding of how TNZ operates. It allowed good existing internal processes to stay while adapting its own best practices to work with TNZ’s existing approach, enabling TNZ to avoid delaying projects already in progress. With helpful guidance, over the six-week development period, TNZ was able to evolve its approach to incorporate Infosys’ best practices.
- **Keep the ratio of Infosys to TNZ resources low.** Throughout the TCOE’s development, Infosys maintained a ratio of about one consultant for every three TNZ employees. This ensured that TNZ could absorb and retain all of the best practices. Infosys dedicated its resources full time, which was one of TNZ’s requirements from the start. Leaders encouraged mutual respect, and the team built a good working relationship between the two organizations.

Infosys’ Experience Brought A Smooth Implementation Approach

Infosys brought the innovation and expertise needed to get the job done. Elements of this successful approach included:

- **Combining existing in-house tools with customized proprietary Infosys technologies.** TNZ didn’t want to reinvent the wheel and get rid of what had worked in the past, such as some HP tools that were functioning well. IT asked to use some of its own proprietary testing solutions along with Infosys’ testing methodologies.
- **Establishing a strong methodology to drive best practices.** Infosys uses a three-step transition model for its global sourcing engagements. The first step is knowledge transfer, which creates a structured transition plan to identify the assets needed, examine regression test cases, identify existing defects, and prepare a plan for moving forward. This usually takes about four weeks. The second step is shadow testing: Infosys shadows the incumbent team during the test-planning phase while Infosys creates its own test case. When this phase is complete, the teams compare test cases and identify knowledge gaps. This stage takes about four to six weeks. The last stage is primary testing, in which teams test a number of cases to ensure that the methodology is working.
- **Adding automation to testing practices.** Automating regression testing affected the entire testing environment. A defect in one area could easily affect other areas, bringing more downtime. Before automation, introducing new process batches often caused other systems to be unavailable. Automated testing highlighted new defects every morning, improving removal efficiency to 98%.
- **Implementing strategic governance controls.** Infosys brought its own governance controls and adapted them to work with TNZ’s existing proprietary frameworks. The TCOE helps improve the maturity of the testing organization by boosting capabilities across key practice areas, including automation, processes, people, and tools.

- **Establishing new practices to achieve TCOE goals.** Infosys introduced static reviews, risk-based testing, and model-based testing to speed testing solutions' progress and meet the initiative's goals.
- **Tracking measures of change effectiveness.** A group at TNZ met periodically to measure how effectively Infosys was meeting the initiative's objectives. This group measured the degree to which tasks were delivered on time, on spec, and on budget and validated the quality going into production to ensure a high-quality business and operational "feel."

Implementation Challenges Taught Important Lessons, Too

Any project brings challenges. Both TNZ and Infosys faced challenges throughout the TCOE's development, but they worked together to manage them effectively. TNZ found that:

- **Too much accommodation is not always best for the project outcome.** TNZ found Infosys very willing to do whatever it took to make TNZ happy, but this was not always what was best for the project. TNZ wanted Infosys to assert more of a leadership role for the project rather than always deferring to the opinions of the TNZ stakeholders.
- **Cultural resistance to change slowed improvement in testing practices.** TNZ underestimated the cultural changes needed to bring required changes in testing practices. Although everyone understood the goals of the project, teams did not fully grasp how the project would change their roles and responsibilities. If TNZ had to repeat the project, it would spend more time on communication and cultural issues.
- **Experts should speak with a strong voice.** When a company hires experts to help drive change, it should demand that they speak with a strong voice to ensure that everyone knows they really believe what they are saying. Companies undergoing initiatives like this one need to avoid an approach that is too passive to influence change, as this can undermine confidence in the experts' ability to get the job done.

TCOE BEST PRACTICES BROUGHT TANGIBLE RESULTS

The TCOE project is a successful work in progress for both TNZ and Infosys. The vendor and client both acknowledge that the tight deadline presented challenges, but by working on a tight timeline, TNZ was able to hit its deadlines and avoid noncompliance fines and is currently two-thirds of the way through the final implementation of a permanent TCOE. According to Infosys, working 15-hour days, seven days a week during a six-week period, the two organizations were able to work together to establish best practices for a high-quality TCOE. Infosys' guidance and expertise provided opportunities for TNZ to make quantifiable improvements in its delivery quality. TNZ has achieved benefits including:

- **More-robust testing governance.** Infosys designed a phased implementation that includes rigorous processes regarding activity and function initiation, sign-offs for quality approval, and timeline management.
- **Reduced software delivery cost.** Over the life cycle of the project, Infosys helped reduce TNZ's costs by nearly NZ\$470,000. The organization accomplished this with improved practices such as reducing process duplication and the effort for process completion, reusing testing processes during automated stages of testing, and performing static testing to detect and eliminate defects early.
- **Higher-quality software.** By building strong testing practices, TNZ was able to catch defects earlier, thereby reducing the number the defects that made it into production and eliminating the downtime those defects would have caused.
- **Faster TCOE implementation.** By using Infosys' testing methodology, TNZ sped its TCOE's development. When Infosys arrived, TNZ was already roughly six to eight weeks behind schedule. With Infosys' help, TNZ recovered the lost time and completed the project on time and on budget, avoiding the NZ\$10 million penalty the New Zealand government could have imposed.

RECOMMENDATIONS

HOW TO APPLY TNZ'S BEST PRACTICES

TNZ's positive experience implementing a TCOE is one that other organizations can emulate. Working with an outsourced partner means balancing internal oversight with external expertise. To achieve a successful implementation:

- **Ensure visible internal representation.** TNZ's experience was positive in part because it had resources tasked with working closely with the vendor. This role is critical because it establishes the company's requirements for quality and reinforces how the two parties must work together to ensure that project goals are met and service-level agreements (SLAs) are upheld.
- **Don't skimp on internal communication.** If you think you can go overboard in this area, think again. No amount of preparation and communication is too much — early emphasis on establishing expectations and listening to concerns about cultural change will make it easier to meet those expectations later.
- **Challenge your vendor to be a change agent.** Vendors often loathe rocking the boat; they want to keep customers happy even if it isn't the best for project delivery. However, if you wanted to maintain the status quo, you wouldn't have gone to a vendor in the first place. Establish upfront that you're bringing in the vendor for its expertise and that you expect it to lead and introduce necessary change — provided that it has a valid, cost-effective process for doing so.

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