Driving Change, Delivering Results
Innovative Ideas in Change Management

by

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Executive overview

Every day organizational change management practitioners rise to the challenge to help lead turnarounds and position their organizations for success. Yet, we also have unique opportunities to drive change and deliver results within our own areas that are often overlooked.

In this paper I share how the journey at CN Rail to improve training material efficiency, led to innovative results in surprising areas.

This includes leveraging our training documentation authoring tool, common in many organizations, to drive value and achieve impressive returns such as:

- Reduce training costs by $350K for a single project and avoid significant unproductive time among business users.
- Reduce time to develop test scripts by 50%.
- Establish a unique way to manage and transfer knowledge within the IT department.

Key Learning Points

1. Every team has the ability to be innovative and add value in seemingly unlikely places.
2. Innovation is not just about the latest technology or gadget – it also means using existing tools or information in new ways.
3. Set aside time to brainstorm and cultivate new ideas. We often get so caught up in our day-to-day work, that we miss opportunities to exercise the amazingly creative part of our brains.

A big problem with few solutions

It was a sunny spring day in 2002 when our training development lead burst into the status meeting and proclaimed, “Today we printed our one millionth page of training material.”

What seemed like an impressive achievement was actually a tragedy.

Countless hours to develop, format, print and ship training material to hundreds of locations was an expense of enormous proportion. Sadly, the documentation was out-of-date before it left the shipping dock. Ongoing fixes and enhancements – typical during stabilization – often affected screens and fields. Outside of reworking, reprinting and reshipping, there were few cost effective options to address the situation.

While we recognized huge opportunities for improvement, change didn’t happen for several years when training material authoring tools such as info Pak (now known as U-Perform) and On-Demand (now part of Oracle’s UPK) matured to the point where they could actually help.

A paradigm shift in how we approach training material design and distribution

CN welcomed its new training material authoring system in 2009 following months of evaluation. At last we able to create and maintain end-user documentation and job aids electronically and provide user access online. It was a turning point in improving efficiency.

Figure 1 – Visual map of CN’s tool of choice. On-Demand was subsequently acquired by Oracle and branded User Productivity Kit - UPK.
Much of our journey since then has focused on integrating this on-line approach into standard ways of working. Mastering the finer side of creating content, branching scenarios and context sensitivity, along with integrating the business context into the mix has brought us to a new level of improved efficiency and training effectiveness. Establishing a process for ongoing sustainability has also been an important goal to ensure usefulness of training material over the life of the tool it is written for.

What we learned is that the effort to produce on-line training is roughly the same as our manual process.

The benefits come in our ability to have one source of documentation, keep it up-to-date and by eliminating the need to print and ship. Users also have access around the clock and can easily help themselves.

Add to this is the fact that we no longer need to maintain expensive and complex training environments. UPK easily simulates the results students get in a training environment, with additional benefits. This includes the ability to add rich content and business context, while offering a stable and reliable environment accessible by multiple concurrent users.

Today UPK plays a central role in our overall strategy for classroom and instructor-led training and self-service help. While it doesn’t fit every situation, it’s a powerful tool and complements other training methods such as demos, webinars, videos, coaching, CBTs and even simple communiqués and paper job aids.

**Fast forward to the next generation in training delivery for field workers**

If you asked one year ago if we were ready to take the next step and attempt to deliver operations training in a virtual environment across two countries and four time zones, using UPK in conjunction with other technologies, I’d have serious reservations.

At the start of 2011, however, the opportunity presented itself and our internal change management team rose to the challenge. Our mission: to migrate 677 unionized S&C employees working in 248 locations across
Canada and the US from their existing Signals Equipment Tracking System (SETS) to a new Signals & Communications Inventory System (SCIS) - all within a 16-week window on a tight budget. In addition to teaching employees new skills, the initiative also involved changing software and switching hardware.

We quickly determined that the best, and perhaps only route to go, was to attempt virtual training using a combination of live instructors, UPK simulations, user laptops, a telephone bridge line and features in our Webex conferencing application. It was an idea we had been tossing around for a while and now was our chance.

Realizing that virtual training requires a different approach than live classroom or coaching events, we turned to the experts to help build internal skills. This came in the form of taking virtual training ourselves to understand the dynamics of remote engagement, how to manage logistics and best practices for virtual synchronous facilitation.

Creating collaborative exercises using virtual whiteboards, application sharing and breakout rooms also required a new approach. Learning these skills in an on-line environment was perfect as it allowed us to create content and get feedback from professional facilitators and other students regarding the quality and clarity of our work.
This validation was essential as our training requirements meant employees had to remain fully engaged for more than two hours on-line.

A critical success factor in virtual training is to have a producer in class. Their role is to resolve technical issues (and there can be many), manage chat questions, launch application sharing, set-up breakout rooms, oversee quizzes and polls, and handle other tasks as needed. This allows the trainer to focus solely on interacting with students, which is at the heart of an effective on-line learning experience.

Securing trainers, ideally from the business, who could dedicate 14 weeks to the effort was also a challenge. So we did the next best thing and hired recently retired employees with S&C backgrounds, and then prepared them to train their former colleagues in this new frontier.

One week of train-the-trainer, followed by two weeks of practice, and a three-week pilot run, and we were ready and set to go.

**Ready, Set, Go**

Initially, most of our challenges were technical and related to Internet connections and fire walls. We also experienced some other issues common to project go-lives around security access, having PCs ready and properly configured, operational priorities, and so on. Once the wrinkles were ironed out, however, things took off and ran smooth.

Prior to training, employees were prepared for what to expect via a number of business engagement events. Part of this included providing access to the UPK simulations to see the new SCIS application in advance.

On the day of their session, field employees connected from home, the office or other location convenient to them based on instructions provided by email. Following an ice breaker exercise using collaborative tools such as on-line markers and white boards, the sessions unfolded much like a live classroom.

Employees watched videos of how new hardware, such as Bluetooth scanners, worked. Following that, they jumped into the UPK simulations to see how the new transactions flowed, and then attempted to complete them using their own PCs. All the while, they remained connected to the instructor and other participants via phone or email chat.

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**Figure 6 · Savings and benefits from delivering S&C field training via virtual synchronous training.**
A big concern going into this was how to keep field workers engaged, attentive and connected for more than two hours. Feedback from our trainers, who had the ability to see if students left to browse other applications, reported that this was not an issue.

**Remarkable Results**

The best indicators of success are found in the results of our post training audit along with user adoption metrics. Following each training session, students were asked to complete an on-line evaluation and the results indicate high levels of success:

Based on 583 responses, 87% said they received enough training to use the new tools (13% somewhat 1% no); 91% felt they had enough time for practice and questions (8% somewhat 1% no); while 83% felt Webex was an effective learning method (16% somewhat 1% no). See figure 6 for more details.

User adoption, measured by synching data and completing regulatory reports, indicates high level of use and understanding of the new tools and processes.

In addition to impressive cost savings, estimated at more than $300K, were savings in time and convenience. S&C employees play an essential role in train operations, and ultimately customer service. They are responsible for all wayside equipment within their territories that regulates the movement of trains and helps ensure safety.

Connecting from where they worked, rather than driving to the closest classroom location, saved countless hours in non-productive activities and traveling expenses. Completing training in two hours also meant they were back to work quickly, resulting in minimal impact to operations.

Training was accomplished within sixteen weeks with three sets of trainers who switched between leading and producing the sessions. They too connected from home or the office, which also resulted in huge savings.

UPK simulations also played an important role. In addition to providing field workers with advance access to see upcoming changes, the simulations were also used for classroom instruction and continue to provide ongoing support. If employees get stuck or need reminders of how to complete transactions, help is just a click away.

While on-line synchronous training works well for many projects, we know it’s not the solution for all training requirements. It’s a powerful tool, however, that we will continue to use often.

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**On-Line Synchronous Training for Field Workers - Lessons Learned:**

- On-line training requires different approach to course design - focused on engagement
- Need both facilitator (instructor) and producer (behind the scenes to handle issues and questions). Script is also critical so each knows their role and sequence.
- Both developers and trainers must learn new skills (not difficult – just different)
- Potential technical issues must be identified and addressed in advance (have work around for unexpected surprises)
- Limit class to two hours with a 10 minute break at end of the 1st hour

**Next Steps**

- Document steps required to plan, design and execute on-line training using Webex
- Train other Change Management Specialists on how to design on-line training courses
- Continue to build skills and expertise

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Figure 7 – Lessons learned when delivering field training virtually.
Other Applications for UPK Simulations

UPK’s strength is in producing various outputs from one authoring session to provide See IT, Try IT, and Do IT simulations. The product also allows you to export into other formats such as Word, PowerPoint and Excel. This is interesting for us, because we use Excel to create test scripts which are then converted and loaded into HP Quality Centre.

For anyone who has done this type of work, creating test scripts is a huge manual effort that is tedious at best. The author must capture all the steps in a transaction, broken down by work objects, and manually type all the steps and commands.

In addition to taking a lot of time, the work is not overly interesting, and the potential for human error is always present.

Based on some preliminary tests, a UPK generated file can be created 50% faster than the manual process. We were convinced that there was potential to further leverage the tool in new ways at CN, and so a pilot was established.

Start Me Up

Armed with these encouraging results, the IT organizational change team selected an SAP based project to test the theory. This consisted of teaching two functional designers how to use UPK (about three hours) in conjunction with Quality Center.

To create a test script, the author simply turns on the recorder, runs through the transaction, and UPK captures and generates all the text behind the actions. This includes repetitious text, such as ‘press enter’ and ‘click here.’ Once the capture is complete, UPK generates an Excel file that is review by the author and uploaded into Quality Center.

Once the team got past the learning curve, approximately one week, they got down to business. In addition to completing the job more than one month ahead of schedule, they also reduced the effort required by some 50%. This savings in time allowed them to perform a more thorough quality review process which is typically a luxury given the tight deadlines teams work against during the test preparation phase.

Based on these results, a project requiring 1,500 test scripts could potentially save two FTE years using UPK. CN is moving forward with this concept and has acquired additional licenses to use UPK for test scripts. Work is now underway to institutionalize the tool into our testing practice along with new ways of working.

Figure 8 – Additional areas CN is exploring to further leverage our investment in UPK.
**Other Opportunities to Add Value**

Annie Kralian has worked in our SAP Centre of Excellence (CoE) since 2001. Over the past ten years, she has gained a wealth of knowledge on CN processes, tools and application support. She will retire in January 2012.

But it doesn’t stop there. CN is also looking at using UPK to create IT build books – a type of documentation needed by the application support teams to help ensure stable and reliable IT applications.

Another initiative is to use UPK early in the project delivery lifecycle to capture existing IT system processes. This information and insight can then be easily accessed by any project team member who needs to understand the as-is system and processes at their leisure.

**Conclusion**

In today’s fast paced and increasingly sophisticated world, organizations must continue to find ways to use existing tools, services and information in new ways to stay ahead.

Companies that once prided themselves for efficiency, must now be rewired for creativity to achieve growth. This requires that employees are willing to explore new ideas and be open to working differently.

Change management is no exception. Given that increasing organizational effectiveness is at the heart of what we do, finding ways to be more innovative is simply an extension of what we do best.