

# DSDM Case Study

## Using an Agile Approach in a Large, Traditional Organization

*Can Agile approaches be used successfully in large organizations, where traditional methods and high levels of governance are the norm? Although the iterative, Agile approaches have been seen to work well in small, flexible organizations, or on smaller projects, they frequently fall foul of the larger organization's need for governance, investment appraisal and control.*

*Formed in 1967, OCLC develops software for use by libraries and their users, museums, and academic institutions. Researchers, students, faculty, scholars, professional librarians and other information seekers use OCLC services to obtain bibliographic, abstract and full-text information. OCLC aims to be the leading global library cooperative. More than 54,000 libraries in 96 countries and territories around the world use OCLC services to locate, acquire, catalog, lend and preserve library materials.*

*This paper examines how TCC, a training and consultancy company from Cheshire, England has worked with OCLC, the Online Computer Library Center based in Dublin, Ohio to incorporate the Dynamic Systems Development Method (DSDM\*) into a development culture that was deeply-rooted in "traditional" software development methods. Examples from multiple projects illustrate how the adoption of DSDM helped OCLC change its culture and achieve success in software development and deployment*

### Introduction

In 1998, The Online Computer Library Center (OCLC), a large, nonprofit company based in Dublin, Ohio, was experiencing problems with its software delivery. We realized time-to-market was becoming increasingly important to our customers and began to really take a hard look at our software development practices.

We identified that projects were typically 18 – 24 months in duration and products were often obsolete even before they were released. Teams were trapped into developing has-been software and then trying to bring it up to speed through maintenance releases. Follow me now on my six steps to Agile success.

\*DSDM is a registered trade mark of Dynamic Systems Development Method Limited

## Step 1: OCLC Meets DSDM

OCLC became ISO 9000 and TickIT certified in 1998 and has a long history of repeatable software development processes derived through a strong quality Assurance Organization. The “traditional” or waterfall approach to software development was well entrenched, and supported, by a system of policies, procedures, and templates: the overall approach was generally standardized across all project teams working in the Dublin, Ohio Company. After going through the process of documenting our Software Development procedures (over-documenting them as it turned out), solving the document control issues, and keeping all the records necessary to retain our ISO certification, we did not want to implement a method that would conflict with the changes we had made in our culture. During my research into Rapid Application Development (RAD) methods (we did not use the term *Agile* at the time), I came across a publication entitled "The Dynamic Systems Development Method and TickIT". This publication provided a guide to reconciling the requirements of ISO 9000 with the procedures used for DSDM – but what on earth was DSDM?

## Step 2: Does it really work that way?

I established that DSDM was an incremental development approach, promising on-time delivery, short increments and it seemed to be strong on user satisfaction. “That’s for us!” I thought. I set off on the trail of this DSDM approach. I identified some training, but it all seemed to be in England. Further research persuaded me that this approach really could help us, and it that it would be worth the trip to a 3-day course in Cheshire, UK for Accredited DSDM training with a local company, TCC. After all, I could combine it with a spot of golf, and visit my ancestral home in Scotland after the class. Driving from Manchester Airport, down roads barely wide enough for one car, let alone for two to pass, I arrived at the hotel where the course was running, a typical "olde worlde" English building. The course began. Dot Tudor was the tutor. In addition to her considerable project experience with DSDM, she clearly had a passion for the DSDM approach. “With DSDM, we WILL deliver on time – every time! We WILL stay within budget! We WILL give you what the business needs!” I must have said something like “Would you care to come over to Ohio and prove it?” And so the road to DSDM began for OCLC.

## Step 3: Project Set-up and the “rolling workshop”

*(The First DSDM Training and Consultancy in Dublin Ohio)*

The high level requirements for the project had already been established and agreed and the next step was to estimate their size, prioritize them and put them into a plan. We did this by having the Project Manager, Visionary (a key business role occupied by the business lead) and myself in a room for a full two days, running a kind of “rolling workshop”. This involved inviting the team (users and developers) into the room in twos and threes to estimate the work required for each of the features to be built and to commit time in their diaries to doing it. We had a paper-covered wall, marked out into weeks, ready to receive the requirements/products to be delivered. These all had to be entered onto large post-it notes, together with their priority (according to the MoSCoW priorities), size, personnel

needed (both developers and users) and dependency on other requirements. We had secured different colors of post-it notes for the different priorities of requirements. It looked like the Amazing Technicolor Dreamcoat when we'd finished, with green "Musts", purple "Shoulds", yellow "Coulds" and shocking pink "Won't Haves".

In planning a DSDM project, it is very important that the work should take place exactly in the timebox in which it is scheduled and that both user and developer time are included. One issue we faced on this first project was that the developers found it difficult to commit specific days or weeks of time because they were also responsible for supporting the current live systems and this "fire-fighting" was a large and unpredictable commitment which had hampered progress in the past. With the agreement of the business lead and the project manager, we rescheduled the support responsibilities into a rotation, so that developers all took two weeks dedicated to support followed by four weeks when they were fully available to the project. That way, a skeleton staff was always solely covering support requirements and the others could concentrate on their timeboxed activities within the plan. Our maxim was, "In a DSDM timebox, commit to only what you really believe you can do – but then, do what you committed to within the timebox." The project was a tight fit for the time we had (do you know how many holidays there are between Halloween and January!) but the team had estimated, and they stuck to their estimates and delivered what was needed on time. Not all of the Shoulds and Coulds were finished, but all of the Must Have requirements were and many Shoulds and Coulds too.

The immediate success of the first DSDM combined training / project initiation made it easy continuing with the method. OCLC was organized based on product lines yielding multiple software development groups (silos) all functioning somewhat differently. Dot quickly developed a working relationship with many of the influential Technical and Business Leads so our decision to continue using DSDM was an easy decision. The advantage of having a common method, process, and language to use within our project teams among the various development groups gave us a reason to continue using DSDM even as new and different Agile methods were introduced.

There were some culture changes needed and some entrenched ideas to break down. As we looked back we remembered when we started the workshops following the 3-day practitioner class for the NCIP project. Our Business Lead had with her a list of all the requirements for the entire product (a very large new product that we knew would take several 6-8 week timeboxes to complete). We asked her to try and determine the *Must* haves for only the first timebox (6 week effort) and of the 48 requirements she determined the 46 were must haves for the first timebox. Persuasive tactics were needed! Actually, we just dug our heels in and said, "No deal!" This point was a reality check for the particular product group in question: the message that the culture was going to have to change began to be accepted from this point on.

#### **Step 4: We also need to tailor to our processes**

Adjustments to the development life cycle procedures and templates were required in order to facilitate iterative development. In the end, we identified that what each project needed

was a timeboxed project plan, an agreed set of requirements, a design review, a test plan, and test records.

The benefit OCLC was attempting to achieve was delivery of the primary functionality for systems in a fraction of the time required by traditional approaches. OCLC believes that DSDM provides an approach characterized by **quick time-to-market** through flexible requirements. That means teams could expect to give the user the necessary functionality very quickly and add enhancements incrementally through subsequent iterations.

### Step 5: The Metrics of our Journey – OCLC Results

Measuring the effectiveness of implementing Agile software development processes at OCLC has been very important over the last 3 years. Through the successful implementation of DSDM practices, we have begun to produce more reliable data which is being captured through post project reviews. This data is then tracked and monitored for improvement opportunities through the extensive use of dashboards.

### Step 6: Where are we today, and where do we go now?

Although teams have tailored DSDM to work better for their needs and some have only adopted tools and techniques, overall the DSDM approach has been a very positive move for OCLC. Whereas most projects used to take 18 – 24 months to deliver a product, they now typically take 2 - 3 months. Many teams do quarterly releases which include incremental enhancements using DSDM along with maintenance support.

So, in conclusion, while we have not yet managed to achieve the ideal Agile development process, OCLC has moved a long way on the *Road to Agility* and is still moving in the right direction. This has been a very big WIN for us.

## Links

OCLC Online Computer Library Center, Inc. <http://www.oclc.org>

TCC Training and Consultancy <http://www.tcc-net.com>

DSDM Consortium <http://www.dsdm.org>

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