



**NUCLEUS
RESEARCH**

RESEARCH NOTE D92

ROI ANALYSIS YOU CAN TRUST™

ROI Case Study: Ultimus Workflow Suite CCCS

THE BOTTOM LINE

CCCS has used Ultimus to automate HR and administrative processes at two of its 14 college campuses, eliminating the errors and inefficiencies inherent in paper-based procedures. Although budget constraints have delayed the extension of Ultimus to the remaining 12 campuses, CCCS has achieved a 90 percent ROI based on the benefits delivered to the first two sites alone.

ROI: 90%

Payback: 1.5 years

THE COMPANY

The Colorado Community College System (CCCS) is the state's largest and fastest-growing system of higher education. CCCS is unique in the country in terms of its governance and oversight responsibilities. The System has governance responsibility for the state community colleges offering a variety of career and academic programs. Additionally, the System assists the State Board for Community Colleges and Occupational Education in exercising certain curriculum and funding authority over four area vocational schools, two local district community colleges, and career and technical programs in over 150 school districts throughout the state.

THE CHALLENGE

CCCS lacked a standard process for managing and routing forms used by employees for tasks like requesting leave and submitting time sheets. Inefficiencies were especially apparent in the following areas:

- Manually filling, routing, and storing paper-based time sheets and forms often led to errors in data entry and misplaced forms. As a result, human resources managers and employees would spend several hours trying to retrieve a lost time sheet and replacing it with a new one.
- Employees would often have difficulties finding the latest versions of forms and documents because paper copies of forms would be scattered in different locations and multiple versions would be in circulation at the same time.
- Because leave time and accruals for employees were recorded and managed through paper forms, CCCS had no way of verifying whether employees were taking time off without reporting it. Therefore, the payouts on unused leave that workers received when they left CCCS were sometimes inflated — some workers were being paid out on leave they had actually taken but not recorded.
- Several workflows and processes themselves were inefficient and lacked intuitiveness, and they needed to be redesigned. For example, certain time sheets required the signatures of six supervisors — a protocol that was unnecessarily complicated.

CCCS realized that there was room for dramatic improvement in many of its core administrative processes and that it needed a solution that would support automated management and routing of forms.

THE STRATEGY

In 2001, CCCS began an initial search for a solution. The project team considered a number of workflow solutions — such as Oracle 8i Workflow — as well as forms and workflow products, including OMNIFORM and Jetforms. However, all of the solutions evaluated would have required CCCS to devote programmers and significant internal resources to the development of the final product.

In late 2001, CCCS evaluated the Ultimus Workflow Suite. The evaluation team decided to purchase Ultimus in February 2002, for the following reasons:

- With Ultimus, CCCS could develop a workflow system without requiring a significant time commitment from internal programmers and developers.
- Ultimus offered a ready-to-use interface that would require little to no customization and could be easily loaded into CCCS's environment.
- The evaluation team felt that the solution presented the most cost-effective means to meet all of CCCS's requirements.

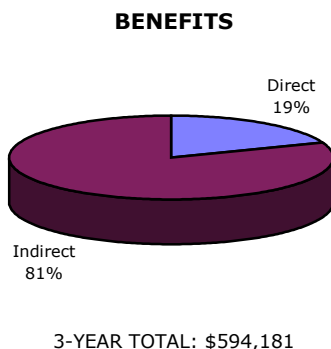
CCCS began developing Ultimus in March 2002 with a project team that consisted of a core group of internal personnel; a set of employees from HR, payroll, IT, and other departments involved on an ad hoc basis; and consultants from Ultimus's professional services group. The initial development of the solution was followed by the training of business users, who were trained to use Ultimus and the developed processes in groups of 10 to 30, through the period ending November 2002.

Ultimus is now being used to automate leave and timesheet processes at CCCS's system office and at Pueblo Community College (PCC). CCCS is rolling out workflow support for a range of other tasks, such as travel authorization requests, travel expense reporting, new hire processes, and conference hall rentals.

Depending on the availability of budgetary funding from the state, CCCS intends to roll out Ultimus to the remaining 12 colleges. Once this funding is allocated, CCCS will continue to automate an increasing number of administrative processes, which will cover nearly 2000 employees across all 14 campuses.

KEY BENEFIT AREAS

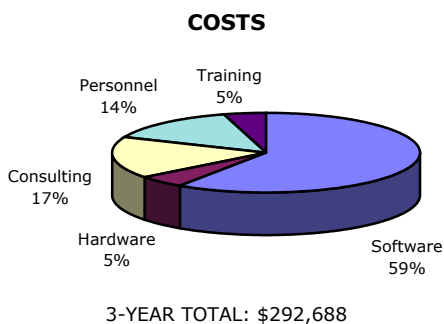
Using Ultimus has allowed employees at CCCS's system office and at PCC to increase the efficiency of various administrative processes. Instead of manual, paper-based processes, employees can enter timesheet data and leave requests into electronic forms — saving information that is then carried automatically to the



appropriate people and systems. Automating workflows for select processes at the Denver system office and PCC has yielded the following returns:

- Reduced abuse of leave time accounting. Now that employee leave time is tracked automatically, CCCS can ensure that workers report all leave time and that they do not take extra, unreported vacation days.
- Eliminated the equivalent of one administrative full-time employee (FTE). By automating the filling out, submission, approval, and tracking of leave request forms and time sheets, CCCS has been able to eliminate one FTE.
- Increased HR productivity. With Ultimus, HR personnel can quickly perform month-end HR reporting without excessive data entry, they no longer have to deal with lost time sheets or leave request forms, and they are relieved of the burden of fielding employee inquiries because workers now have access to self-service features for checking leave balances and payroll details.
- Increased employee productivity. Employees spread across numerous departments will save time through the automation of several common procedures, such as requests for business cards, processing of new hires, and submission of expense reports and travel authorizations.

Because of state budget cuts following this implementation, CCCS has had to temporarily postpone the extension of Ultimus to the remaining 12 colleges. However, the college expects the productivity gains, cost savings, and other direct returns to increase substantially once it deploys Ultimus to employees in other campuses. Therefore, Ultimus has been of value because it is scalable, and the college can cost-effectively develop and automate new processes very speedily in the future.



KEY COST AREAS

Key costs included personnel, hardware, consulting, software, and training. Software licenses and ongoing license maintenance made up the largest cost category, accounting for 59 percent of total project costs. The consulting costs associated with the development of Ultimus amounted to 17 percent of expenses. Personnel and training made up the remaining share of CCCS's investment in the Ultimus workflow solution.

LESSONS LEARNED

In moving from an entirely manual system of managing forms to an automated workflow system, CCCS has struggled with dealing with the lack of computer literacy among many of the users as well as with retraining employers about new policies. Organizations planning to deploy an automated solution to users with varying technical skill levels should therefore begin marketing and training efforts at an early stage.

In addition, defining new processes has been more time consuming than CCCS had initially estimated. Gathering input from business

and IT managers, settling on standard protocols, and incorporating the input of all the players have made for a time-consuming and challenging process, and CCCS would advise companies undertaking similar process redesign projects to budget enough time for this phase of the implementation.

CALCULATING THE ROI

CCCS achieved a 90 percent ROI by rolling Ultimus out to two of its 14 college campuses. Because of budget considerations following initial implementation, CCCS temporarily suspended deployment at the remaining sites. Had the college continued the implementation of Ultimus as planned, the ROI would have been higher. Therefore, when CCCS resumes the rollout of Ultimus to additional sites, the return on this investment will increase proportionally through the achievement of additional direct and indirect benefits.

Nucleus quantified the costs of software, hardware, consulting, personnel, training, and other investments over a 3-year period to quantify CCCS's total investment in the Ultimus Workflow suite. In evaluating the benefits from the deployment of Ultimus, Nucleus quantified both direct and indirect returns.

The key direct benefit for CCCS was the elimination of the equivalent of one administrative FTE because of process improvements. Indirect benefits included increased employee productivity through automated workflows as well as eliminated abuse of leave time accounting. In quantifying productivity gains, Nucleus calculated all time savings — resulting from reduced data entry, time sheet filing, and retrieval times — based on the average fully loaded cost of employees. Time savings were reduced by a productivity correction factor to account for the inefficient transfer of time from time saved to additional time worked. In calculating the reduced payout on unearned leave time, Nucleus counted only a third of the reduction in payout as a benefit in year one because the remainder of users at the first two sites won't be deployed to Ultimus till the end of the first year following initial implementation.

Colorado Community College System (CCCS)

SUMMARY

Project:	Ultimus Workflow Suite
Annual return on investment (ROI)	90%
Payback period (years)	1.48
Net present value (NPV)	301,493
Average yearly cost of ownership	97,563

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	38,000	38,000	38,000
Indirect	0	88,811	195,685	195,685
Total Benefits per Period	0	126,811	233,685	233,685

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Total per Period	0	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Total per Period	0	0	0	0

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	124,000	0	24,800	24,800
Hardware	0	15,000	0	0
Consulting	50,000	0	0	0
Personnel	0	20,296	10,296	10,296
Training	3,600	9,600	0	0
Other	0	0	0	0
Total per Period	177,600	44,896	35,096	35,096

FINANCIAL ANALYSIS	Results	Year 1	Year 2	Year 3
Net cash flow before taxes		81,915	198,589	198,589
Net cash flow after taxes		81,915	198,589	198,589
Annual ROI - direct and indirect benefits				90%
Annual ROI - direct benefits only				0%
Net present value (NPV)				301,493
Payback (years)	1.48			
Average annual cost of ownership		222,496	128,796	97,563
3-year cumulative ROI	170%			
3-year IRR	60%			

FINANCIAL ASSUMPTIONS

All government taxes	0%
Discount rate	0%

All calculations are based on Nucleus Research's independent analysis of the expected costs and benefits associated with the application profiled in the accompanying case. Financial modeling tool, format, and methodology copyright Nucleus Research Inc., all rights reserved.