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ROI CASE STUDY IBM COGNOS UNITED STATES ARMY

THE BOTTOM LINE

The United States Army's Armament Research Development and Engineering Center improved employee productivity by upgrading to IBM Cognos 8 BI version 8.3 and creating a competency center for the propagation and standardization of BI-related best practices.

ROI: 146%

Payback: 1.53 years

THE COMPANY

The United States Army's Armament Research and Engineering Center (ARDEC) is the Army's principal researcher, developer, and sustainer of current and future armament and munitions systems. The organization is responsible for the development, production, field support, and demilitarization of munitions, weapons, fire-control systems, and related equipment used by United States soldiers. ARDEC has more than 3,067 highly-skilled scientists, engineers, and other technical specialists working in five locations.

THE CHALLENGE

The United States military is continually looking for ways to cut costs by reducing staff, closing down facilities, and terminating programs that are found not to be cost effective. As a result of the wars in Afghanistan and Iraq, efforts to reduce costs have recently intensified. In order to survive these successive rounds of cost-cutting efforts, military bases and organizations such as ARDEC need to be able to prove that they are adding value and spending their funding effectively.

In early 2007, ARDEC was seeking ways to use financial business intelligence (BI) more efficiently. Managers at various levels across ARDEC relied on BI for a variety of finance-related tasks such as monitoring and analyzing funding and expense statistics. ARDEC also relied heavily on BI to prove that it was generating value as the result of its funding. The organization had already survived several rounds of base closures, but the financial management department knew that it needed to address a number of impediments to its use of BI tools, including:

- System ownership. Mandates beyond the control of the financial management department resulted in ARDEC's ownership of its financial data, but not the SAP-based ERP system which processed it. As a result, the organization was not always able to obtain the data needed for financial reporting and analysis.

TOPICS

Business Intelligence &
Analytics

- Complex workflows. Because ARDEC had limited access to the financial data in SAP, its procedures around BI were inconsistent and complex, resulting in labor-intensive workflows, rework, and redundant report building. Additionally, the user community had no defined process for submitting report requests.
- Report quality challenges. Because the BI environment had multiple reporting environments and conflicting business rules, reports typically were limited in both their content and user interactivity. As a result, users spent too much time manually performing follow-on research or consumed additional finance staff time by requesting additional custom reports.
- Low adoption. Although ARDEC had been using BI since the late 1990s, it was yet to pursue many best practices to broaden adoption, such as user-driven queries and drill-down or drill-across reports. Additionally, multiple user interfaces and complex procedures for obtaining reports inhibited adoption.

THE STRATEGY

In early 2007, ARDEC undertook an initiative that was designed to improve its use of BI and included the following:

- Cognos upgrade. ARDEC upgraded from Cognos 8 BI version 8.2 to IBM Cognos 8 BI version 8.3, which has a number of features designed specifically to broaden adoption, including user driven report building, self-service query building, and browser-based interfaces that reduce adoption resistance and training requirements (IBM completed its acquisition of Cognos in early 2008 and Cognos's formal name is Cognos, an IBM company).
- SAP integration. Portals from SAP and Cognos were used to integrate the SAP business warehouse with Cognos in a single repository. Because these portals are SOA-based, costly ABAP reporting was avoided. Deploying these portals eliminated reporting barriers to financial data in SAP.
- Best practice propagation. Seven members of ARDEC's financial BI staff dedicated a portion of their time to internal BI consultancy and the creation and dissemination of best practices through a BI competency center. Ownership of the ERP system will continue to reside outside of ARDEC's financial management team, so the team created a set of standardized best practices that enable the financial analysts to independently obtain through Cognos the analytical tools they need.
- Standardized report creation. The financial business intelligence team used six-sigma process improvement practices to standardize report creation. This project was based on IBM Cognos 8 BI version 8.3 and included the development of guidelines for tasks such as requirements gathering, report building, and report publication, as well as effective communication regarding the proper use of reports once they are deployed.

With the upgrade and integration in place, ARDEC then created a single user interface for accessing financial data from SAP. The team also provided users with formal training designed to teach them not only how to use BI better, but also how to build their own queries, reports, and analyses so that they would become less reliant on the financial BI staff.

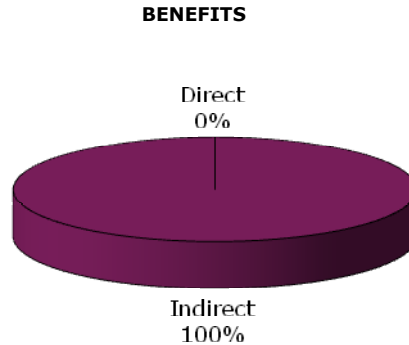
As a result of the upgrade to IBM Cognos 8.3, the use of portals to integrate with SAP, and the aggressive propagation of BI-related best practices, adoption of

financial BI has increased significantly. The number of financial analysts using it increased from 75 to 150, while the number of engineers using it has increased from 25 to 400. Data analysis is used for a variety of financial analysis tasks, including funding applications, cost accounting, budgeting, and presentations validating value generation at all ARDEC levels.

KEY BENEFIT AREAS

Upgrading to IBM Cognos 8 BI version 8.3, establishing a BI competency center, and integrating with SAP have improved the ability of ARDEC employees to use financial BI. Specific benefits of the deployment include:

- Improved productivity of finance staff. The standardized reports and end-user driven functionalities in IBM Cognos 8 BI version 8.3 enabled ARDEC's business analysts and engineers to become more self sufficient in their use of financial BI. As a result, the finance staff now spends far less time fulfilling custom report requests and more time on value-added activities such as working on unfunded projects and propagating BI-related best practices.



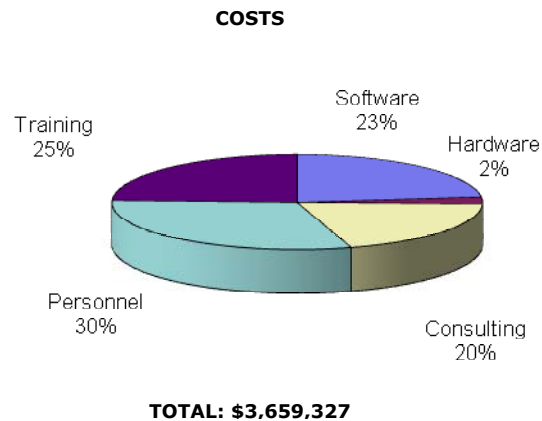
TOTAL: \$10,742,625

- Improved analyst productivity. BI end users now take advantage of the standard user interface and end-user driven functionality to more rapidly acquire the financial information they need. Additionally, because of best practice propagation by the BI competency center and the usage of end-user driven functionality in IBM Cognos 8 BI version 8.3, these users now complete their financial analysis projects more rapidly.

The deployment also had benefits that were important, but not quantifiable because of the non-financial nature of ARDEC's mission. Although ARDEC's goal is to provide better protection and lethality for United States soldiers, the organization is continually striving to accomplish more with a fixed budget, and many intended projects are never funded. The productivity improvements resulting from the IBM Cognos 8 BI version 8.3 upgrade and the best practice propagation efforts enable ARDEC employees to spend less time on tactical, non-core tasks, and more time supporting the soldiers in the field who are their ultimate customers.

KEY COST AREAS

Key costs for the deployment included personnel, software, consulting, hardware, and training.



The deployment began in early 2007 and was completed by five members of ARDEC's financial management team who each spent a portion of their time working with seven internal consultants over a 66-week period. When IBM Cognos 8 BI version 8.3 went live, formalized training was given to 450 end users who each attended either one or two-day training sessions. Following the deployment, seven members of the financial management team began dedicating between 5 percent and 25 percent of their time to the BI competency center. ARDEC purchased 500 seats of IBM Cognos 8.3, and 25 seats of IBM Cognos 8 Go! Mobile. Two servers were purchased for storage of the application, single data repository, and reference library.

BEST PRACTICES

The primary reason the project was so successful is that team members stayed in close contact with end users throughout the entire project. In creating assets such as standardized reports, a single user interface, and the competency center, the team made extensive use of interviews, beta tests, surveys, and focus groups. This enabled them to get highly detailed information about business requirements, as well as user preferences that would enhance adoption. Once a deliverable such as the user interface or an interactive report was created, iterative end-user testing ensured that business needs were being met and adoption would be high.

CALCULATING THE ROI

Nucleus calculated the costs of personnel, software, consulting, hardware, and training over a 3-year period to quantify ARDEC's total investment in IBM Cognos 8 BI version 8.3. Indirect benefits quantified included the improved productivity of analysts within ARDEC's financial management department, as well as 400 analysts, engineers, and project managers throughout the organization. These benefits were quantified based on the employees' average fully loaded annual cost. A correction factor was applied to the benefit to account for the inefficient transfer of time between time saved and time worked.

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DETAILED FINANCIAL ANALYSIS

UNITED STATES ARMY

SUMMARY

Project:	IBM Cognos 8 BI Version 8.3
Annual return on investment (ROI)	146%
Payback period (years)	1.53
Net present value (NPV)	2,106,177
Average yearly cost of ownership	1,219,776

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	0	0	0
Indirect	0	960,750	3,695,625	6,086,250
Total Benefits Per Period	0	960,750	3,695,625	6,086,250

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	436,769	0	0	0
Hardware	83,998	0	0	0
Total Per Period	520,767	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	87,354	87,354	87,354
Hardware	0	16,800	16,800	16,800
Total Per Period	0	104,153	104,153	104,153

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	137,161	137,161	137,161
Hardware	0	0	0	0
Consulting	725,972	0	0	0
Personnel	217,498	405,842	242,962	242,962
Training	40,153	181,396	242,896	427,396
Other	0	0	0	0
Total Per Period	983,623	724,399	623,019	807,519

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(1,504,390)	236,351	3,072,606	5,278,731
Net cash flow after taxes	(1,012,579)	170,252	1,588,380	2,691,442
Annual ROI - direct and indirect benefits				146%
Annual ROI - direct benefits only				-30%
Net present value (NPV)				2,106,177
Payback (years)				1.53
Average annual cost of ownership				1,219,776
3-year IRR				83%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%