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ROI CASE STUDY

IBM

US LUMBER

THE BOTTOM LINE

By upgrading to IBM Cognos 8 BI, US Lumber improved productivity, reduced inventory levels, accelerated accounts receivable (AR) turnover, and reduced capital costs.

ROI: 3,623%

Payback: 11 days

Average annual benefit: \$720,000

THE COMPANY

US Lumber is a \$325M distributor of specialty and wholesale building materials. The company has approximately 6,000 customers and eight distribution facilities which serve markets in 14 southeastern and mid-Atlantic states.

THE CHALLENGE

In mid 2007, senior management at US Lumber began to sense that the housing boom — which had enabled the company to grow rapidly — was approaching a peak. In preparation for a potential downturn, which is typically sharp in the building industry, the company wanted to be able to monitor the primary drivers of its profitability and cash flow: sales, AR, and inventory. Analysis of these parts of the business was accomplished with a combination of IBM Cognos ReportNet and a custom-built procurement application, which also supported purchasing. However, after evaluating these tools, US Lumber determined that although they were adequate in the current environment, they would not enable employees to perform analyses with sufficient speed or granularity in the event of a downturn. Some of the limitations that US Lumber wanted to overcome included:

- **Static reports.** For each function such as AR management and inventory control, the company had relatively few reports that were too rigid to enable analyses at the SKU, salesperson, or customer level.
- **Labor-intensive analyses.** Because of the rigidity of the standardized reports, employees typically performed analyses by requesting one-time and ad-hoc reports that were labor intensive and costly for the finance department to create.
- **Limited visibility.** Because reporting was so rigid and individuals' analytical projects required the creation of customized reports or queries, line-of-business managers and other people typically were unable to complete the analyses that they required; and the analyses they were able to complete typically took too long and had insufficient granularity.

TOPICSBusiness Intelligence &
Analytics

- Poor forecasting. The custom-built procurement system recommended new purchases merely by comparing sales volumes for the prior three months with current inventory levels in order to project inventory needs. Because this system did not take into account the seasonal nature of the building business, new purchases frequently did not match demand.

THE STRATEGY

In late 2007, US Lumber's senior finance staff began looking for ways to give employees the visibility they needed to better manage sales, AR, and inventory. The company's senior financial analyst had attended a number of IBM events, forums, demos, and Webinars regarding IBM Cognos 8. He was confident that the following features in the upgrade would give employees the desired speed and granularity of analysis:

- Web-based functionality that would enable the finance department to publish standardized reports and tools to the Web, effectively creating department-specific portals for inventory, AR, finance, and sales. Additionally, such a publication practice would enable the finance department to govern how people interpreted and analyzed data.
- Java-based functionality that creates links to Web pages or databases and enables users to drill down, across, and up in databases or reports that are continuously updated for new transactions.
- End-user driven tools that enable creation of ad-hoc and end-user driven tools such as queries, reports, and dashboards without assistance from either the IT or finance departments.

US Lumber's procurement vendor, Gicsoft — which hosted US Lumber's purchasing application and data — proposed custom building new reporting functionality and features for \$100,000. However, US Lumber was confident that a Cognos upgrade would be less expensive and result in more functionality.

A Cognos partner upgraded US Lumber to Cognos 8.2 over a weekend in July of 2007. Following the upgrade, two members of the finance department began building tools based on business requirements gathered prior to the upgrade. Web sites were created for each of 120 end users responsible for managing sales, AR, and inventory. Each site has tools — built within Cognos 8.2 — such as interactive reports, dashboards, and scorecards that enable people to both track key performance indicators and perform end-user driven investigations in order to identify root causes of poor sales performance or slowing conversion of current assets.

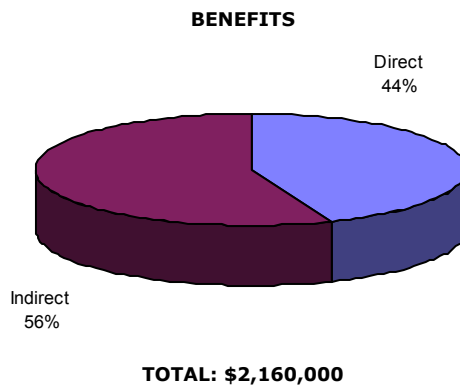
KEY BENEFIT AREAS

Adopting IBM Cognos 8 BI enabled US Lumber to improve productivity and reduce financing costs by lowering the levels of AR and inventory. Key benefits from the solution include:

- Reduced financing costs. As a result of the deployment, employees have been able to reduce inventory levels by better forecasting demand, identifying slow moving items, determining root causes of inventory staleness, and monitoring efforts to liquidate such inventory. AR management has also improved. Financial analysts and line-of-business managers are better able to identify

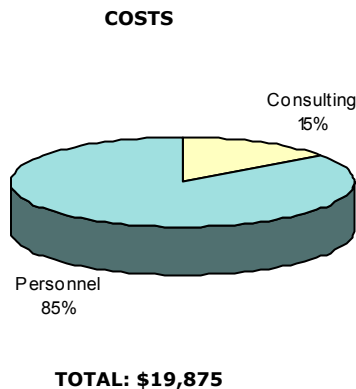
slow paying customers in order to better focus collections efforts. Additionally, by linking IBM Cognos 8 BI to prior payment histories, the company now avoids extending credit to companies with weak credit records. Since the go-live date, this visibility has accelerated turnover of both AR and inventory by 10 percent, significantly reducing US Lumber’s financing costs.

- **Improved productivity.** As a result of the upgrade, analytical tasks that previously required a labor-intensive combination of static reports and manually-built Microsoft Excel spreadsheets can now be completed far more rapidly with a combination of ad-hoc queries, Java-based drill-downs, or derivations of standard reports built by end users. Productivity has also improved because IBM Cognos 8 BI is linked with internal ASPs such as a program that automates the creation of invoices and has replaced several labor-intensive workflows. As a result, productivity has improved by an average of 13 percent for the 120 end users in various functions who use IBM Cognos 8 BI.



KEY COST AREAS

Key cost areas for the deployment included consulting and personnel. An IBM Cognos partner supplied consultants who spent a weekend configuring IBM Cognos 8 BI for integration with US Lumber’s recently upgraded ERP and existing databases. IBM did not charge a fee to upgrade the existing seats to version 8.2. Once the upgrade was complete, two members of the finance department spent 400 development hours creating the functionality and tools, integrating them with the databases, and exposing them through department-specific Web sites.



BEST PRACTICES

One reason the upgrade to IBM Cognos 8 BI was so successful is that the deployment was kept as simple as possible. First, the project champion kept the scope limited to AR, inventory, and sales. For each of these functions, line-of-business managers were asked to keep the scope and scale of business requirements narrow and straightforward. This meant that for each department, the deployment team was able to come up with not only the right tools for tracking agreed-upon key performance indicators, but also the right mixture of static tools and end-user driven functionality. US Lumber also kept the deployment simple by building functionality in stages. Once the upgrade was complete, the deployment team completed sequentially created and launched separate department-specific sites for sales, AR, and inventory. This reduced both risk and complexity for the deployment team and accelerated end-user adoption.

CALCULATING THE ROI

Nucleus calculated the costs of consulting and personnel over a 3-year period to quantify US Lumber's total investment in its IBM Cognos 8 BI upgrade.

Direct benefits calculated included the reduction to financing costs resulting from an acceleration of inventory and AR turnover. This calculation was based on the reduction to average balances and US Lumber's weighted average cost of capital. Indirect benefits consisted of improved productivity of line-of-business managers and other employees who now spend less time analyzing sales or asset turnover and performing root-cause analysis. This benefit was based on the average annual fully loaded cost of these employees and the average amount of time saved. A correction factor was applied to this benefit to reflect the inefficient transfer of time from time saved to time spent on new work.

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DETAILED FINANCIAL ANALYSIS

US LUMBER

SUMMARY

Project:	IBM
Annual return on investment (ROI)	3623%
Payback period (years)	0.03
Average annual benefit	720,000
Average annual total cost of ownership	6,625

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	315,000	315,000	315,000
Indirect	0	405,000	405,000	405,000
Total Benefits Per Period	0	720,000	720,000	720,000

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	0	0	0	0
Hardware	0	0	0	0
Consulting	3,000	0	0	0
Personnel	16,875	0	0	0
Training	0	0	0	0
Other	0	0	0	0
Total Per Period	19,875	0	0	0

FINANCIAL ANALYSIS	Pre-start	Year 1	Year 2	Year 3
Net cash flow before taxes	(19,875)	720,000	720,000	720,000
Net cash flow after taxes	(9,938)	360,000	360,000	360,000
Annual ROI - direct and indirect benefits				3623%
Annual ROI - direct benefits only				1585%
Net present value (NPV)				812,024
Payback (years)				0.03
Average annual cost of ownership				6,625
3-year IRR				3623%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%