

**NUCLEUS
RESEARCH**

RESEARCH NOTE D43

ROI ANALYSIS YOU CAN TRUST™

ROI Case Study: Hummingbird Public Services New Mexico

THE BOTTOM LINE

Public Service Company of New Mexico used the Hummingbird Document Management system to improve access to content in various libraries. The company has achieved a positive ROI by reducing customer support costs, decreasing the need for off-site storage, retiring its outdated microfiche system, and boosting the productivity of employees across different departments.

ROI: 105%

Payback: 11 months

THE COMPANY

Public Service Company of New Mexico (PNM) is the principal subsidiary of PNM Resources, an energy holding company based in Albuquerque, New Mexico. PNM provides natural gas service to 441,000 gas customers and electric utility service to 385,000 customers in New Mexico. The company also sells power on the wholesale market in the western United States.

THE CHALLENGE

As a result of increasing regulatory pressures and an expanding customer base, PNM faced document management challenges in a number of areas, including the following:

- Regulatory compliance. Local, state, and federal authorities required PNM — as a large public service utility — to retain different kinds of records and to produce these materials upon request. Satisfying these document retention requirements was necessary because noncompliance exposed PNM to potential fines and litigation.
- Customer service. PNM's call center staff receives thousands of customer inquiries about bills and related statements. Searching and retrieving customer records consumed a lot of time, and representatives couldn't view the bill in the same format as the customer. Poor bill presentment extended the duration of call center interactions and often delayed resolution of the customer issue.
- High storage costs. Because of various requirements, PNM retained over 55,000 boxes of paper documents as well as millions of dated microfiche and microfilm records in on-site locations and off-site warehouses. The external storage costs and overhead associated with this process constituted a significant annual expense for PNM.
- Slow document access. Employees working for PNM's environmental, right of way, contract administration, accounts payable, legal, and other departments needed a better way to search and access documents in order to speedily respond to internal and external requests for documents.

PNM needed a document indexing and retrieval system that would provide users with quicker access to documents, ensure the

security of various records, retire documents when necessary, and allow the organization to eliminate the costs associated with maintaining outdated and manual methods of storage and document retention.

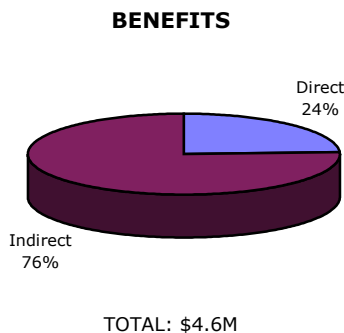
THE STRATEGY

In January 1997, PNM began looking for a document management system. The company spent four months comparing document management products from several vendors, including FileNet, Documentum, and Hummingbird. After a thorough evaluation, PNM chose the Hummingbird system for the following reasons:

- Hummingbird's system had the most open architecture and would enable PNM to integrate it with a records management system and other applications in the future.
- PNM's deployment and technical support staff would require less training with the Hummingbird system.
- PNM could customize the Hummingbird solution to meet its specific requirements.
- Hummingbird's document management system was the best-priced and most cost-effective one among the solutions considered.
- The document management system's advanced search, retrieval, and categorization capabilities fulfilled the varying requirements of users in different departments.

In January 1998, PNM started planning the deployment of the document management system and spent time cleaning and validating the data contained in existing systems and databases. In April 1998, PNM acquired licenses of the Hummingbird document management solution and began developing the system with a project team that consisted of two full-time employees and one Hummingbird consultant.

In early 1999, PNM rolled out 10 separate document libraries serving a number of different departments. A PNM employee, who had been trained by Hummingbird, trained internal users of the solution. Super users of the system spent half a day in training, and less frequent users received approximately two hours of training each.



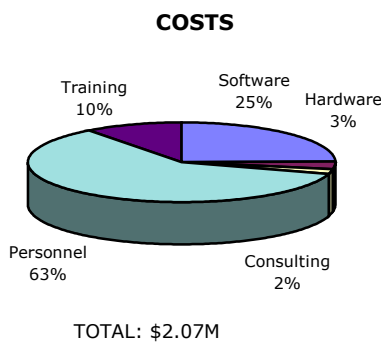
Over time, PNM's deployment of Hummingbird document management solution has grown to accommodate over 21 document libraries, with approximately 1.2 million documents being added per month.

KEY BENEFIT AREAS

Hummingbird's solution has provided PNM employees across different departments with improved access to documents and records and has allowed the organization to retire its microfiche system and reduce its reliance on off-site storage. Key returns from the Hummingbird solution included the following:

- Reduced customer support costs. The document management system has allowed call center staff to search and retrieve bills much faster, view statements in a clear PDF format, and resolve customer queries in less time.
- Eliminated cost of microfiche system. With the introduction of the document management system, PNM has been able to retire its microfiche machine, eliminating the annual costs of maintaining that system.
- Reduced costs of off-site storage. The migration to an electronic document management system has allowed PNM to reduce the volume of paper documents that need to be stored externally. This has led to decreased costs of off-site storage space and a reduction in the overhead associated with the storage function.
- Increased employee productivity. Hummingbird’s search and retrieval functionality has provided quick access to documents in various systems. This has resulted in significant time savings for employees in a number of PNM departments, including contract and corporate document administration, environmental, right-of-way, and accounts payable.

PNM is currently in the process of upgrading to Hummingbird’s DM 5 solution and expects to achieve additional benefits from this migration. With DM 5, PNM will no longer have to follow the traditional desktop installation process but will instead be able to automatically deploy and plug in the solution on user PCs, greatly reducing the time and expense of installation. In addition, DM 5 will allow PNM employees to save e-mails as communications of record along with traditional documents in the repository, improving compliance procedures and reducing PNM’s legal exposure to fines and regulatory penalties.



KEY COST AREAS

The key costs of PNM’s total investment in the deployment of the Hummingbird document management system were personnel, software, training, hardware, and consulting. The costs of personnel needed to implement the solution and to support it on an ongoing basis made up the largest cost category, accounting for 63 percent of the 3-year costs. Software was the next largest expense, at 25 percent of total project costs. Employee time spent on training as well as the costs of engaging external trainers amounted to 10 percent of overall expenditure. Hardware and consulting made up the remainder of the costs.

LESSONS LEARNED

PNM realized that key to deriving value from a document management system is addressing the learning curve associated with a solution and ensuring that system users are adequately trained. In particular, PNM has focused its training efforts on instructing users to conduct advanced text searches, enabling users to increase the accuracy of their document searches and accelerate the retrieval process.

PNM has also discovered that it is more efficient for companies to maintain control over the number of document libraries that they implement over time. The number of libraries at PNM has steadily increased, and the company will focus its future efforts on consolidating and condensing the different libraries that it maintains and supports.

CALCULATING THE ROI

Nucleus quantified the costs of software, hardware, consulting, personnel, training, and other investments over a 3-year period to quantify PNM's total investment in Hummingbird.

Direct benefits calculated included decreased costs of customer support, eliminated costs of maintaining a microfiche machine, reduced need for off-site storage, and reduced overhead associated with the storage function. Indirect benefits quantified included increased productivity for employees in the contract administration, right-of-way, environmental, accounts payable, and other corporate document administration divisions. Time savings associated with a faster document search and retrieval process were calculated based on the fully loaded hourly cost of various PNM employees. A productivity correction factor was applied to account for the inefficient transfer of time from time saved to additional time worked.

SUMMARY

Project:	Hummingbird
Annual return on investment (ROI)	105%
Payback period (years)	0.92
Net present value (NPV)	814,943
Average yearly cost of ownership	693,117

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	371,600	371,600	371,600
Indirect	0	1,168,433	1,168,433	1,168,433
Total Benefits per Period	0	1,540,033	1,540,033	1,540,033

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	347,000	0	0	0
Hardware	68,475	0	0	0
Total per Period	415,475	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	69,400	69,400	69,400
Hardware	0	13,695	64,695	85,695
Total per Period	0	83,095	134,095	155,095

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	55,000	55,000	55,000
Hardware	0	0	0	0
Consulting	40,000	0	0	0
Personnel	149,760	274,560	411,840	411,840
Training	143,375	22,500	22,500	22,500
Other	0	0	0	0
Total per Period	333,135	352,060	489,340	489,340

FINANCIAL ANALYSIS	Results	Year 1	Year 2	Year 3
Net cash flow before taxes		1,187,973	1,050,693	1,050,693
Net cash flow after taxes		635,534	592,394	602,894
Annual ROI - direct and indirect benefits				105%
Annual ROI - direct benefits only				4%
Net present value (NPV)				814,943
Payback (years)	0.92			
Average annual cost of ownership		1,100,670	795,005	693,117
3-year cumulative ROI	140%			
3-year IRR	91%			

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%

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.