

**NUCLEUS  
RESEARCH**

RESEARCH NOTE D72

ROI ANALYSIS YOU CAN TRUST™

## ROI Case Study: Microsoft Business Solutions North Atlantic Industries

### **THE BOTTOM LINE**

NAI achieved a positive return on its investment in Microsoft Business Solutions Axapta software by reducing inventory costs, realizing direct savings in personnel costs, and increasing the productivity of employees through reduced downtime.

**ROI: 128%**

**Payback: 7 months**

### **THE COMPANY**

The vision of North Atlantic Industries (NAI) is to become the preeminent global supplier of innovative military and commercial off-the-shelf (COTS) solutions that fulfill the requirements of companies in the aerospace, industrial, and defense markets. Founded in 1955, NAI was initially recognized throughout the world as a leading manufacturer of AC electronic test and measurement products. In 1992, the company came under new ownership and management. Through an aggressive program of internal product development and acquisitions, NAI has expanded its core technology base to include intelligent DSP-based board solutions and rugged military/aerospace power supplies.

### **THE CHALLENGE**

The technology that NAI was using for managing data for enterprise resources and planning fell short of the needs of users in various departments. In particular, employees faced the following challenges with reporting, data access, and resource management:

- Inefficient reporting. With NAI's existing system, information reporting was a cumbersome process, taking several hours for most purposes and not allowing employees to view or print subsets of data. As a result, users were unable to manage by exception — instead having to go through huge volumes of paper to drill down to specific details in a report.
- Inadequate access to data about operations. Employees didn't have easy access to data needed for fielding various customer queries or for determining the time and cost of delivering upcoming or processed orders. For example, NAI staff couldn't determine the costs of fulfilling a specific customer order ahead of time, having to offer customers estimates instead.
- Excessive downtime. NAI's existing reporting system would crash often, leading to an average of two hours of downtime each week, costing both the affected employees and IT staff several hours' worth of productivity. In addition, running certain processes such as material requirements planning (MRP) required users to exit and remain outside the system until the process was completed — a cycle that could take up to several hours at times.

- Low visibility into inventory. NAI had little visibility into the level of inventory it held at any given time and was therefore unable to accurately forecast the amount of stock needed in the future — often leading to high inventory levels and costs.

NAI needed an enterprise resource planning (ERP) solution that would allow its employees to easily run reports and access accurate data about inventory levels, materials costs, and other information they needed for making decisions and managing operations on an ongoing basis.

**THE STRATEGY**

In early 2001, NAI started looking for an integrated ERP solution and considered a number of applications, including Expandable II from Expandable Software, Vantage from Epicor, Visual Manufacturing from Lily Software, and Microsoft Business Solutions' Axapta software. NAI eventually decided to purchase and deploy Axapta for managing the inventory, manufacturing, and finance operations within the company. The company selected Axapta because it was the most cost-effective solution available and it offered an open and flexible platform for future customization and integration.

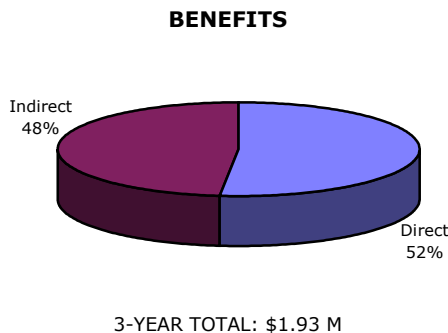
In August 2001, the company began implementing Axapta with the help of two internal personnel dedicated to the project and a few consultants provided by NAI's reseller organization. In addition to this core project team, an internal ERP committee comprising staff from the finance, procurement, and engineering departments met several times during the implementation to define business requirements and provide other input for the development of the system.

The company completed the development of the solution in March 2002 and rolled it out to approximately 40 users spread across the finance, procurement, planning, accounting, and other departments by the beginning of April. NAI's internal personnel did most of the user training, although the company's consultants also spent some time familiarizing users in the accounting and purchasing departments with the application.

**KEY BENEFIT AREAS**

Axapta has automated reporting and various clerical tasks for different departments at NAI and sharply increased the company's visibility into inventory, manufacturing, finance, and other key aspects of operations. Key benefits of the solution include the following:

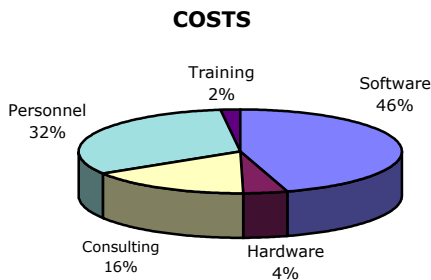
- Saved personnel costs. Axapta has automated and accelerated the creation of reports, processing of orders, data entry, and various clerical tasks performed by users in different departments. As a result, NAI has reduced headcount in its sales and finance departments and avoided the hire of one procurement buyer.



- Increased user productivity. NAI has been able to greatly increase the productivity of employees in the engineering and customer service departments by enabling them to run reports, exchange data with vendors, and perform other functions in less time.
- Eliminated former system. NAI has been able to retire the old system it was formerly using for reporting, order processing, and other functions. As a result, the company gets to keep the cash it would have spent on annual maintenance fees for that application.
- Reduced downtime. With Axapta, employees are now saving the time that they were formerly losing because of the downtime associated with weekly system crashes.
- Reduced inventory. Axapta provides NAI with real-time visibility into the need for different kinds of inventory at any given time; the company has effectively reduced costs by 20 percent by avoiding excessively high inventory levels.

### KEY COST AREAS

Key costs included personnel, hardware, consulting, software, and training. The costs of software constituted the largest component of project costs at 46 percent of overall expenses. Personnel made up the second-largest cost category, reflecting the costs of internal NAI staff who spent time developing the solution and conducting user training. Consulting accounted for 16 percent of total costs. Hardware and training constituted the remainder of NAI's investment in Axapta.



3-YEAR TOTAL: \$439,878

### LESSONS LEARNED

NAI found that it was able to improve its overall payback by leveraging the skills of its internal IT staff for developing and customizing Axapta as well as for performing data conversion and user training. On an ongoing basis, the company can continue to gain benefits in new areas because Axapta provides an open architecture that internal personnel can easily customize to meet changing business and user needs.

### CALCULATING THE ROI

Nucleus quantified the costs of software, hardware, consulting, personnel, training, and other investments over a 3-year period to quantify NAI's total investment in Axapta. Direct benefits calculated included decreased inventory, eliminated maintenance fees for the retired system, and savings in personnel costs, thanks to NAI's ability to reduce headcount in certain departments and to avoid hiring additional personnel in others. Indirect benefits including increased productivity of employees were calculated based on the average fully loaded cost of employees. Time savings associated with reduced downtime were multiplied by a productivity correction factor to account for the inefficient transfer of time from time saved to additional time worked.

**SUMMARY**

Project:	<b>Microsoft Axapta</b>
Annual return on investment (ROI)	<b>128%</b>
Payback period (years)	<b>0.60</b>
Net present value (NPV)	<b>499,888</b>
Average yearly cost of ownership	<b>146,626</b>

<b>ANNUAL BENEFITS</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Direct	0	533,500	233,500	233,500
Indirect	0	311,200	311,200	311,200
<b>Total Benefits per Period</b>	0	844,700	544,700	544,700

<b>DEPRECIATED ASSETS</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Software	138,036	0	0	0
Hardware	19,500	0	0	0
<b>Total per Period</b>	157,536	0	0	0

<b>DEPRECIATION SCHEDULE</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Software	0	27,607	27,607	27,607
Hardware	0	3,900	3,900	3,900
<b>Total per Period</b>	0	31,507	31,507	31,507

<b>EXPENSED COSTS</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Software	0	20,465	20,465	20,465
Hardware	0	0	0	0
Consulting	55,040	16,640	0	0
Personnel	124,667	5,400	5,400	5,400
Training	8,400	0	0	0
Other	0	0	0	0
<b>Total per Period</b>	188,107	42,505	25,865	25,865

<b>FINANCIAL ANALYSIS</b>	<b>Results</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Net cash flow before taxes		802,195	518,835	518,835
Net cash flow after taxes		416,851	275,171	275,171
<b>Annual ROI - direct and indirect benefits</b>				<b>128%</b>
Annual ROI - direct benefits only				66%
<b>Net present value (NPV)</b>				<b>499,888</b>
<b>Payback (years)</b>	<b>0.60</b>			
Average annual cost of ownership		388,148	207,006	146,626
3-year cumulative ROI	199%			
3-year IRR	133%			

**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.