ROI Case Study: Microsoft Dynamics GP Mid-Continent Instruments

THE BOTTOM LINE

Mid-Continent Instruments deployed Microsoft Dynamics GP software to fix poor inventory visibility and to automate the sharing of data between departments. Inventory accuracy is up, inventory spending is down, personnel costs have fallen, and sales agents can accept orders that they used to turn away.

ROI: **103%**

Payback: **10 months**

THE COMPANY

Mid-Continent Instruments is a leading designer and manufacturer of electric gyros, engine gauges, and miscellaneous instruments for every propeller-driven aircraft manufacturer within the U.S. Mid-Continent also operates one of the world's largest, FAA-approved instrument overhaul/exchange programs for various manufacturers. Based in Wichita, Kansas, with a branch in Van Nuys, California, the company today employs over 150 people.

THE CHALLENGE

Entering 2000, Mid-Continent faced several problems that limited worker productivity and threatened to restrict company growth.

Poor visibility into inventory and operational data and a lack of data integration were the root of numerous problems. When customers placed orders, staff had to physically verify that inventory was available before completing the sale. Before manufacturing orders were initiated, staff had to pull parts to determine what would need to be ordered. When customers called to ask about the status of units sent for repair, agents often had put customers on hold while contacting the production lab for information. Manufacturing schedules were maintained on a wall calendar.

Mid-Continent's executives were concerned about the effect these problems were having on the bottom line. In addition to the obvious operational inefficiencies, poor inventory visibility was causing both overstocks and stock-outs. Uncertainties about inventory forced sales agents to turn away time-sensitive orders. On top of this, the company's existing software solution crashed frequently, bringing production to a halt.

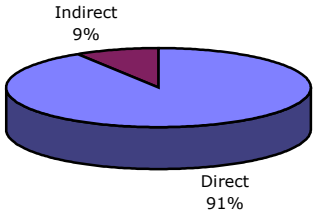
THE STRATEGY

In 2000, a cross-departmental group at Mid-Continent evaluated ERP solutions from several providers, including Datafax, aviation-industry specialist Pentagon, Syspro, and SAP. In November, the group chose Microsoft Dynamics GP solution (then called eEnterprise). The Dynamics GP solution won out over the alternatives for several reasons:

- The solution was flexible enough to support business processes for both the company's manufacturing group and its repair-and-overhaul division.
- The evaluation group was convinced that Dynamics GP would provide the strongest service and support.
- The Dynamics GP client was similar to the Windows applications that were already familiar to most users, including shop operators and inventory clerks.
- It would integrate more easily with Mid-Continent's Dynamics GP financial software package. This was important because Mid-Continent wanted to reduce manual data entry and speed information sharing between systems and departments.

To speed deployment, Mid-Continent brought in consultants from ePlains to execute the eEnterprise deployment and used developers from another firm to customize reports and work-order and filled-order processing. A group of Mid-Continent managers contributed business expertise and project guidance. In July 2001, after ePlains had been on site 108 days, the core solution went live to 55 users. The following August, Mid-Continent added modules to support shipping and work in progress.

BENEFITS



3-YEAR TOTAL: $4.79M

KEY BENEFIT AREAS

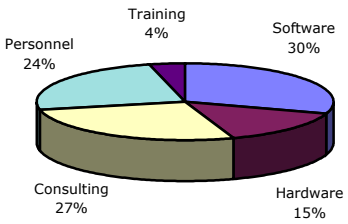
By deploying eEnterprise to support its inventory, purchasing, engineering, and order processing functions, Mid-Continent achieved new savings and new revenues in several areas, including the following:

- Reduced inventory. Because the accuracy of inventory for raw materials has risen from 58 to 73 percent and because purchasers have greater visibility into upcoming orders and their parts requirements, Mid-Continent will have trimmed inventory by 25 percent during the first three years of use.
- Increased sales. Knowing what parts are in stock, sales agents can also give customers assurances that they couldn't before. Agents estimate that they would have to turn away at least 1 percent of the orders they process today.
- Reduced personnel costs. Dynamics GP has automated many previously manual tasks, such as data entry and visual inventory checks. This has enabled Mid-Continent to reduce personnel costs in accounting, purchasing, inventory, and shipping.
- Increased productivity. Now that stock-outs and system crashes aren't a problem, engineers and manufacturing workers can continue filling client orders without costly interruptions. And customer agents can check order status without running to the shop floor, saving four people a total of eight hours a day.

KEY COST AREAS

Software and consulting costs constituted the largest cost areas for Mid-Continent's deployment; software licenses for Dynamics GP and SQL servers made up 30 percent of project expenses, while the cost of consultant support during deployment added 27 percent. The cost of personnel time devoted to deployment and the addition of a

COSTS



3-YEAR TOTAL: $1.35M

new data inspection position have accounted for 24 percent of project costs. The remaining project budget went toward new hardware, including servers, routers, and tape backup equipment, and toward training for solution users.

LESSONS LEARNED

Mid-Continent's deployment and adoption of Dynamics GP has been almost trouble free. Internal project leaders feel that project success was significantly helped by advance definition of well-defined objectives; this helped prevent the deployment from sprawling into less critical areas and also enabled the company to use consultant developers in targeted ways. Other companies may find that emulating Mid-Continent's example will reduce project costs and speed deployment time.

CALCULATING THE ROI

Nucleus Research analyzed the costs of software, hardware, personnel, consulting, and training since deployment to quantify Mid-Continent's investment in the Dynamics GP system. The benefits calculated include savings through reduced inventory and personnel costs and new revenues through sales that could not have been supported with the previous system. Productivity gains were multiplied by a correction factor to account for inefficiencies in converting time saved into additional time spent productively.

SUMMARY	
Project:	**Microsoft Dynamics GP**
Annual return on investment (ROI)	**103%**
Payback period (years)	**0.81**
Net present value (NPV)	**1,075,746**
Average yearly cost of ownership	**451,250**

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	1,773,928	1,258,928	1,333,928
Indirect	0	140,396	140,396	140,396
Total Benefits per Period	0	1,914,323	1,399,323	1,474,323

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	263,500	0	0	0
Hardware	196,500	0	0	0
Total per Period	460,000	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	52,700	52,700	52,700
Hardware	0	39,300	39,300	39,300
Total per Period	0	92,000	92,000	92,000

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	48,000	48,000	48,000
Hardware	0	0	0	0
Consulting	366,200	0	0	0
Personnel	210,000	40,000	40,000	40,000
Training	53,550	0	0	0
Other	0	0	0	0
Total per Period	629,750	88,000	88,000	88,000

FINANCIAL ANALYSIS	Results	Year 1	Year 2	Year 3
Net cash flow before taxes		1,826,323	1,311,323	1,386,323
Net cash flow after taxes		959,162	701,662	739,162
Annual ROI - direct and indirect benefits				**103%**
Annual ROI - direct benefits only				94%
Net present value (NPV)				**1,075,746**
Payback (years)	**0.81**			
Average annual cost of ownership		1,177,750	632,875	451,250
3-year cumulative ROI	139%			
3-year IRR	95%			

FINANCIAL ASSUMPTIONS	
All government taxes	50%
Discount rate	15%