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Document **F67**

ROI CASE STUDY MICROSOFT DYNAMICS AX MENTOR ENGINEERING

THE BOTTOM LINE

Mentor Engineering used Microsoft Dynamics AX's integrated reporting and procurement capabilities to reduce inventory levels and avoid hiring additional procurement staff.

ROI: 72%

Payback: 1.54 years

THE COMPANY

Mentor Engineering designs, builds, and implements wireless systems used in large fleets of vehicles. The systems are used by police departments, fire departments, taxi companies, and utilities. Mentor brings value to its customers by building wireless fleet systems that are highly customized, technically robust and functionally rich. Additionally, the systems can be designed for integration with any of the available wireless standards. Mentor is technologically sophisticated and has won several awards for innovations in its wireless systems. The company has 80 employees and has been in business since 1988.

THE CHALLENGE

In early 2001, Mentor decided that its existing reporting systems could not support either Mentor's rapid growth or its complex operational needs. The existing system did not integrate the various departments, and had limited reporting capability. The customer reporting system was paper based. Mentor determined that it needed to acquire a system that would integrate the information in all of its departments, and assist management in improving both purchasing and project management.

THE STRATEGY

During the summer of 2001, Mentor evaluated six systems. Microsoft Dynamics AX was selected because it could be geared toward technical manufacturing and had a project module. Mentor acquired the base package and many of the available modules, including Project 1 and 2 and Production 1. These modules were important because they could help Mentor to track the costs, revenues, and invoicing related to any given project.

In November 2001, a team of six internal employees led by the operations manager began working on the deployment with Microsoft partner Encompass Solutions. At the time, Microsoft Dynamics AX was relatively new, and there was some trial and error for both Mentor and Encompass. During the deployment 40

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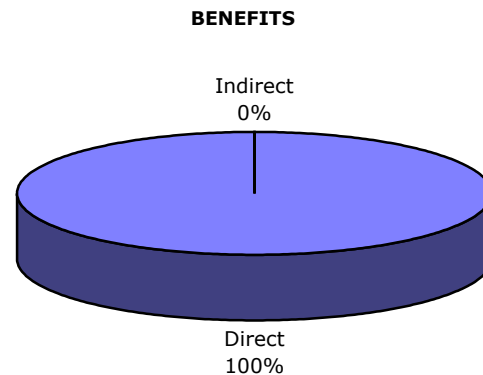
F13 ROI Score – Microsoft Dynamics AX

employees were trained on the system by Encompass. Because of the nature of its product, Mentor's staff is technologically sophisticated, so user adoption was relatively rapid. The deployment was finished in March 2002, on time, and 25 percent under budget. Mentor has 80 employees and all have access to Microsoft Dynamics AX.

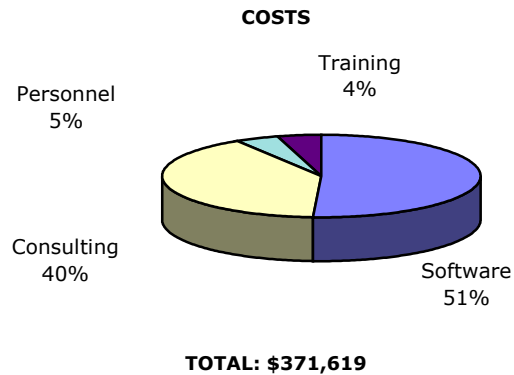
KEY BENEFIT AREAS

Since deploying Microsoft Dynamics AX, Mentor now has centralized reporting that can be made available to everyone involved in the production process. Benefits from the solution include:

- Improved procurement efficiency. Microsoft Dynamics AX both integrates information from various departments and automates purchases. As a result, the procurement staff has remained flat while Mentor has grown significantly in terms of both sales and headcount.
- Reduced inventory carrying costs. Because Microsoft Dynamics AX can combine information from the production and inventory departments, it is able to optimize purchases based on anticipated needs on the shop floor. Overages, shortages, and stockpiling have been eliminated and timing of purchases has been optimized. As a result inventory levels have been cut in half.
- Improved customer satisfaction. Because Microsoft Dynamics AX integrates information from sales, finance, inventory, and production, process control and quality control improvements have been made. With improved quality and more on-time deliveries, customer satisfaction has improved. This has increased the level of repeat business.

**KEY COST AREAS**

Software costs made up 51 percent of Microsoft Dynamics AX's deployment costs. Consulting totaled 40 percent, while personnel and training comprised 9 percent.



LESSONS LEARNED

According to Mentor, the deployment of Microsoft Dynamics AX was completed under budget and ahead of schedule. The only thing that management wishes it had done differently is additional testing of some of the key functionalities during the deployment. There were no surprises or disappointments with these functionalities. However, some of them required changes in process within the company. With additional testing, management could have undertaken these changes earlier.

While Mentor is a robust user of Microsoft Dynamics AX, it is selective about taking on upgrades. Management typically chooses to buy an upgrade either if it meets a cost benefit hurdle, or if it will enable the addition of an important functionality.

CALCULATING THE ROI

Nucleus calculated the costs of software, consulting, personnel and training to quantify Mentor's total investment in Microsoft Dynamics AX. The direct benefits of reduced procurement staff was based on the fully loaded cost of these employees, while the benefit of lower inventory was calculated based on a cost of capital of 15 percent.

DETAILED FINANCIAL ANALYSIS

Mentor Engineering

SUMMARY

Project:	Microsoft Dynamics AX
Annual return on investment (ROI)	72%
Payback period (years)	1.54
Net present value (NPV)	108,424
Average yearly cost of ownership	123,873

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	276,500	276,500	276,500
Indirect	0	0	0	0
Total Benefits Per Period	0	276,500	276,500	276,500

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	130,000	0	0	0
Hardware	0	0	0	0
Total Per Period	130,000	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	26,000	26,000	26,000
Hardware	0	0	0	0
Total Per Period	0	26,000	26,000	26,000

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	0	19,500	19,500	19,500
Hardware	0	0	0	0
Consulting	75,000	75,000	0	0
Personnel	0	5,625	5,625	5,625
Training	16,244	0	0	0
Other	0	0	0	0
Total Per Period	91,244	100,125	25,125	25,125

FINANCIAL ANALYSIS	Year 1	Year 2	Year 3
Net cash flow before taxes	176,375	251,375	251,375
Net cash flow after taxes	101,188	138,688	138,688
Annual ROI - direct and indirect benefits			72%
Net cash flow after taxes (direct only)	101,188	138,688	138,688
Annual ROI - direct benefits only			72%
Net present value (NPV)			108,424
Payback (years)			1.54
Average annual cost of ownership			123,873
3-year cumulative ROI			62%
3-year IRR			47%

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%