



# Maximizing Return on Investment in the Midmarket ERP Implementation



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By David Carleton, President/CEO  
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## INTRODUCTION

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### **About the Author**

David Carleton is currently President/CEO of Maximum Data Solutions, Inc. He entered the IT arena in 1968 as a programmer for Burroughs Corporation. In 1978 he entered in the field of automatic data collection with Data Pathing. He has remained in ADC since, holding many positions supplying solutions to both Fortune 100 companies and the midmarket. He is a frequent conference speaker and sits on several industry policy boards.

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## BUSINESS IN A TIGHT ECONOMY

In every sector of business, from high-tech to Manufacturing to Internet, the economy is forcing companies to stay competitive by taking proactive steps to improve operations. The traditional model of cost cutting or re-engineering has yielded gains but the more visionary companies are looking beyond to improve productivity and profitability. In light of the emerging global economy, executives are looking for new strategies to introduce and deliver new products to the marketplace through diverse channels. At the same time these executives are forging new value added relationships with suppliers and customers. However even with all the sophistication of today's marketplace, service is still the catalyst that builds the relationships and fuels growth.

While all this is going on the customers have become more sophisticated. It is no longer uncommon for a prospect to ask his salesman not only "how much"; but to demonstrate the internal distribution procedures from receiving to shipping. Suddenly IT challenges have less to do with debits and credits and more intertwined with virtually every business decision. These challenges have rapidly filtered down from Fortune 100 companies to the market segment known as mid-market. These are even more IT challenges looming on the not to distant horizon for the mid-market executive:

- A need to realize even higher ROI on their enterprise software investment
- "Shrink rap" accounting systems that do not have the capability to satisfy the information management requirements
- Rapid evolution of information technology
- Management of like but diverse databases and business rules of loosely integrated applications

To not only survive, but to prosper in this context as global leaders, mid-market executives must correctly anticipate, adapt to and manage each one of these market dynamics. How? By seizing control of what has become the single most powerful resource in business in the 21st century: accurate information.

Companies that have been successful at this effort have sought to proactively exploit information about their internal operations to balance and optimize financial, manufacturing, service and distribution resources. Indeed, managing at all levels with accurate and timely information at their disposal.

## A REVIEW OF ERP

An Enterprise Resource Planning system is a suite of integrated corporate wide software applications that drives manufacturing, financial, distribution, service, human resources, and other business functions in real time. In the past, organizations used separate applications to automate these business functions. What's different about ERP systems is that they integrate across functions to create a single, unified system rather than a group of separate, insular applications.

### The Origin of the ERP Solutions

The concept of unifying enterprise- wide information management systems and the robust technologies that make it happen may no longer be new to the world of business. The use of software for resource planning is anything but.

ERP has its root in well-established Material Requirement Planning (MRP) systems that have evolved over the last quarter of a century. Thousands of manufacturing operations around the world have implemented some kind of MRP or MRP II (Manufacturing Resource Planning) system to improve efficiency at specific levels of production.

As data from the factory floor, warehouse or distribution center began to impact more areas of the company, the need to disseminate this data across the entire enterprise demanded that other business areas interoperate with the MRP system. Suddenly, MRP systems had responsibilities they couldn't fulfill, which lead to the development of MRPII systems, which have now given way to ERP.



ERP systems have stirred a lot of well-deserved buzz in a lot of different sectors of business. In part, it's because so many software solution providers have seen the writing on the wall. Companies like Baan, JBA, JD Edwards, Oracle, PeopleSoft, QAD, SAP, SSA, Symix and more are enjoying the reward of dramatic growth as manufacturers move away from legacy MRP II systems and begin the process of ERP implementation. The solutions they deliver are more robust than any host-based MRP system yet. Recently companies such as Microsoft Business Solutions have made these same robust applications available to mid-market.

### **The Value of Automated Data Collection**

It's easy to be consumed by the capabilities of ERP. And it's easy to be consumed by the actual implementation of an ERP system. But the most critical issue for every executive to remain focused on is the catalyst for ERP: the company's survival.

From that point of departure, there evolves an array of other crucial strategic initiatives; industry leadership, for instance. But a company's decisions on information technology are almost always a matter of strategic planning.

The catch is that the software component of the ERP solution neither solves business problems nor executes a strategy.

What a company invests in selecting, implementing or using an ERP system is not the point. Forget how robust a given system can be. If the data that goes into the ERP system is not accurate or immediately accessible, the whole system becomes suspect. The catalyst for an ERP system may be a company's need to survive, but the success of ERP is predicated on the simple concept of collecting accurate, timely data. Gartner Group simply states "...companies who incorporate real-time data collection into their ERP efforts will realize a 50 percent greater return on investment than companies without such capabilities".

In the absence of reliable data, ERP is deficient at best, a failure at worst.

### **The Role of ADC**

Because the ERP system represents an enterprise-wide solution, executives tend to expend resources on high-level applications, and often ignore the business processes where the most significant data entry really occurs – on the shop floor and in the warehouse or remote service technician. That's often a function of misunderstanding the role of automated data collection (ADC).

In the days of MRP/MRP II and surprisingly, even in some of today's most robust ERP systems, ADC has been mislabeled an "exotic" technology.

The alternative is ironic.

A visit to most warehouses or factory floors will more often than not reveal workers collecting data on clipboards, shop tickets or a variety of other paper-based methods before inputting the data to the ERP system on a terminal. It's an archaic but persistent routine in applications like inventory management, time and attendance, shipping, receiving, picking, put away, work-in-process: transactions throughout the supply chain. Why is it crucial for executives to keep these areas squarely in sight? Because data is typically collected there by hourly laborers, including assemblers, clerks and operators.

Research shows that manual data collection such as this tends to have one error with every 300 keystrokes. In a warehouse that processes 10,000 order lines each day with an average of 10 keystrokes per line, that's 333 data errors every day, or 17,000 data errors each year. Where does that erroneous data go? Straight into the ERP system. And straight to the hands of strategic decision makers.

## ADC INTEGRATION

Acknowledging the importance of accurate and timely data in an ERP system is a good start, but it is not enough. Rather, aligning decisions about ADC and ERP implementation is equally important. To appreciate the significance of aligning the two, it is important to understand the two major methods of ADC.

In concert with the evolution of MRP to ERP, the integration of ADC has undergone notable change. For starters, most MRP/ERP systems didn't integrate ADC technologies. Instead, their method of collecting data was through paper and keyboard. As data collection systems began to emerge for ERP the technology most commonly used was the Middleware Solution. These are generic systems that can attach to any ERP system using ODBC links to synchronize data between separate databases.

These proved to be effective but a number of problems arose:

- Latency
- Often batch
- Not real-time
- Programmed in proprietary language
- Business logic not on enterprise server
- Violates data integrity of ERP
- Distributes complexity

More recently the "enterprise" has come to include ADC as part of the overall integrated solution. This even holds true in the midmarket where the solutions are becoming more robust and the need for increased "functionality" is no longer needed. AMR Research uses the term enterprise commerce management (ECM) to describe the trend of building corporate frameworks around integration architectures, beyond the traditional single ERP applications. While most ERP vendors have been slow to adapt to this methodology some ADC vendors have reacted and now offer solutions that fully integrated into ERP. The problem that arises for these ADC providers is that the solution offered is not portable across ERP offerings and a higher level of specific ERP solutions is necessary. Some of the benefits of this increased effort are:

- No redundant data
- No batch interfaces
- Native programming
- Business logic on enterprise server
- Maintains integrity of ERP data
- Centralized management
- ERP specific solutions

## TURNING TECHNOLOGY INTO PROFITS

Technology in of itself does not solve business, but rather is the enabler to secure change. Many companies have benefited from incorporating powerful ERP solutions with a fully integrated ADC solution. Below are a few ways they have turned technology into profits:

### Reduced Inventory

#### How would carrying 5% to 10% less inventory effect the bottom line?

##### CASE IN POINT

Arthur Schuman Inc by having tighter inventory was able to carry less inventory and increase turns from 3.5 to 5 per year

### Warehouse space

#### Would better utilization of warehouse space reduce capital expenditures in the future?

**CASE IN POINT** By using random locations Super D was able to increase their SKU's from 35,000 to over 150,000 utilizing same warehouse space.

### Order Accuracy

#### Would customer satisfaction improve if you always shipped the right product to the right customer at the right time?

**CASE IN POINT** Emergency Medical Products increased order accuracy to 99.67%.

### Employee Training

#### How much does it cost to bring a new employee to a fully functional state?

**CASE IN POINT** Arthur Schuman was able to simplify the complicated handling of similar looking cheeses to a single scan thus reducing employee training.

### Employee Productivity

#### Are each of my employees working at peak productivity? Do I even know?

**CASE IN POINT** Super D was able to increase their picks per minute from 2 to a high of 9 per employee.

### Vendor Compliance

#### Are your vendors requiring you to label product?

**CASE IN POINT** Arthur Schuman was able to meet vendor requirement for labeling thereby maintaining many key accounts.

### Demonstrable Standards

#### Will efficient use of technology help secure future business?

**CASE IN POINT** Super D has effectively demonstrated their operational systems to gain key major accounts.

### Ease of Implementation

#### Will a fully integrated system shorten implementation time?

**CASE IN POINT** Emergency Medical Products implemented their ADC system within a few weeks and has effectively managed several ERP upgrades.

### Management Decisions

#### Will timely and accurate information aid in making management information?

**CASE IN POINT** Super D uses their integrated SQL data to not only make critical daily decisions but can react to situations within seconds after they occur.

## CONCLUSION

The concept of leveraging internal information to improve operational issues and achieve strategic goals is nothing new. But the tools for that effort have never been more robust. And the stakes have never been higher.

To not only survive, but to prosper in today's business context as global leaders, executives must correctly anticipate, adapt to and manage a diversity of shifting market dynamics. How? By seizing control of what has become the single most powerful resource in business in the 21st Century: information.



Complete, reliable, real-time control of accurate information from across the enterprise lies at the heart of ERP systems. But the success of those systems is predicated on the integrity of the data that goes into them. Plotting a course to the successful implementation of a robust ERP system in conjunction with a powerful ADC system can be an intricate but revealing process. And its rewards are manifold: increased productivity, enhanced customer satisfaction and greater profitability.

The right ADC system, then, is more than just a smart addition to ERP. It's a mandatory component. Because, without reliable data, every ERP system, no matter how robust, will be deficient at best, a failure at worst.

For executives making multi-million dollar decisions about their companies, the mandate is clear: align your data collection and ERP implementation decisions proactively.

#### **About Microsoft Business Solutions: Winning Strategies for the Distribution Industry**

Microsoft Business Solutions gives your mid-size business the same kind of information-leveraging power that, until now, has been available only to very large distribution organizations. Microsoft Business Solutions for the Distribution Industry are comprised of integrated and highly customizable systems that save time and money through every phase of your business – from e-commerce to accounting, from the warehouse to customers. It's a total enterprise solution that's simple and affordable. It can empower you to:

- Make smarter, faster business decisions
- Improve employee and business productivity
- Gain a competitive advantage

#### **About Maximum Data Solutions**

Based in Ann Arbor (Michigan's fast-growing "IT Zone"), Maximum Data Solutions is an established Microsoft Solutions Partner offering innovative automatic data collection (ADC) systems. Maximum Data specializes in the design and implementation of radio-frequency barcode and wireless mobile applications that are fully integrated with Microsoft Business Solutions products for distribution and manufacturing companies. More than a software developer, Maximum Data Solutions is a people company that focuses on the service and support of its products.

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