SELECTION OF A NEW ENTERPRISE RESOURCE PLANNING SYSTEM IN A SMALL BUSINESS: THE HINTON MILLS CASE

Euijin Kim
Janet M. Ratliff
Connie H. Grimes
Gregory R. Russell
Morehead State University

Matt Hinton
Hinton Mills

This paper introduces a case study of a family-owned local business, Hinton Mills, that initiated a project that would replace its outdated Enterprise Resource Planning (ERP) system. The company was in the agricultural product retailing business, serving mainly local customers (e.g., farmers) since 1918, and had five retail stores located in central and northeastern Kentucky. In 2017, Hinton Mills management decided to evaluate replacing their ERP system. This case study presents the factors that influenced how the small business evaluated ERP system options in replacing an outdated system.

INTRODUCTION

It was 2016 and Matt Hinton sat at his well-worn oak desk reviewing his notes. He knew that Hinton Mills, the company started by his grandfather almost 100 years ago, handed down to his father, and soon to be managed by him and his brothers, was a successful business. The company now had five stores and had built a very strong business by providing products and services that met the specific needs of their customers. But Matt knew that a major storm was brewing on the horizon, and one that could soon cripple the very core of the business.

Matt looked at his notes again. Weeks of conversations with companies that could provide a solution for Hinton Mills were found there. "Do we really need to make this change?", Matt thought. Business was good, so why was such a significant change needed? Couldn't Hinton Mills just leave things as they were? The information system that provided data used by the management team and

employees to run the business and make operational decisions had worked well for so many years. Yes, the system had been purchased a long time ago and was designed for use in the lumber industry. But management had learned how to work around the systems' shortcomings and the company's employees were very comfortable with it. "There is certainly risk if we move to a new system", Matt thought. But he knew that if Hinton Mills was going to continue to be responsive to the specific and changing needs of its customers, be able to grow, run the business in an even more efficient way, and be more profitable, the company's information system had to be updated. That thought had sent Matt down his current path, begun several weeks ago, to find a better enterprise-wide information system. And who better than him, with his information systems project experience, to gather information about the options, analyze that information, and provide a recommendation to his father and brothers?

Matt had served on numerous Enterprise Resource Planning (ERP) system implementation teams before coming back to the family business. He had helped launch many successful ERP installations and had watched C-level managers at large companies evaluate ERP vendors. He had been among a select group who answered their questions about the advantages and disadvantages of various ERP options. "Just lean on my experience," Matt thought. "I have seen others evaluate and make this decision, helped them implement, worked through the bugs, and seen the numerous benefits for the company on the other side." But this one was very different. Not only was Matt sitting on the other side of the desk and now making the ERP system decision, this was a system for *his* business. The family business. The one that had provided a comfortable living for his grandfather, father, and now for him. "I have to make a wise choice here", Matt thought. "One that will serve the business very well for many years to come". He looked a third time at his notes. Which ERP system should he choose?

HINTON MILLS
Hinton Mills began when Frank L. Hinton opened the first Hinton Mills store in 1918. The company began with a strong customer-satisfaction philosophy focused on learning and responding to the specific needs of each customer. With that company mindset, the original store grew to multiple locations and Hinton Mills became a major feed supplier and the first agricultural product retailer in northeastern Kentucky.

By 2017 the company had five Kentucky locations (Plummers Landing, Flemingsburg, Ewing, May's Lick, and Cynthiana), providing an extensive line of products that supported its primary customer base (farmers), including: quality feed, seed, fertilizers, garden and crop protectants, organic products, animal health

items, fencing materials, livestock handling equipment and sold products aimed at residential lawns (lawn seed, fertilizers, weed control) and customers (general store items such as hardware, paint, work clothes and boots, stoves, hunting items, pocket knives, country hams, and its very own coffee).

One of the company's primary advantages was a willingness to customize feeds and fertilizers to the specific needs of each customer. Since its first feed mill was opened in the 1950s, Hinton Mills had provided mixed custom-blended feed as farmers typically needed special feed for their beef cattle, horses, dairy cows, show animals, or hogs. Hinton Mills also provided customized fertilizer blends (based on soil type, drainage, etc.), a service/product that distinguished them from competitors in the region.

Primary competitors for Hinton Mills were local small agriculture product stores as well as larger companies and chains with regional stores located near Hinton Mills' five locations. In the feed/chemicals/fertilizers agriculture market, Hinton Mills primarily competed against Southern States (a Virginia-based cooperative with over 1,200 retail outlets in 21 states) and Rip's Farm Center (a local supplier, established long after Hinton Mills, with two stores located in northern Kentucky and southern Ohio). In the animal handling equipment and miscellaneous farm supplies market, Southern States was again a competitor, as was larger chains such as Rural King and Tractor Supply. For hardware, Hinton Mills' main competitors were local hardware suppliers and national stores (Lowe's, Wal-Mart), as well as Amazon and other online retailers.

The company had enjoyed a long history of success, celebrating its 100th anniversary in 2018. Part of that success stemmed from a long-standing commitment to community engagement and support through numerous programs aimed at youth, agriculture education, and mentoring. For instance, the Hinton Mills Animal Science Center allowed the opportunity for safe, hands-on education for agriculture students in the region. The company also sponsored the "Mutton Bustin" Tour, a program aimed at teaching Future Farmers of America (FFA) members at regional high schools how to be positive role models to youth. Hinton Mills conducted educational youth livestock clinics, awarded scholarships, and continued to support agriculture education events in the communities surrounding its five locations.

Even with the successful business, top management at Hinton Mills realized that new business model might be necessary to better serve its customers and to do so more efficiently. In 2016, the company strategically analyzed their current situation. While business had been good for 100 years, there was a growing concern that their business infrastructure was outdated. The Enterprise Resource

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Planning (ERP) system currently used would not allow them to grow beyond their capabilities. Management determined that their current ERP system was restrictive and was unable to advance their capabilities as needed for future growth and advancement within the industry.

CURRENT ENTERPRISE RESOURCE PLANNING SYSTEM
Matt Hinton began working at Hinton Mills at an early age, leaving the family business for a while to pursue an MBA degree from a prestigious university located in the Midwest. After receiving his MBA, he worked for several companies where he was involved in the implementation of several ERP system projects, including Oracle, SAP, and others. In 2016, Matt returned to Hinton Mills and helped conduct a SWOT analysis in which he and the other top management realized that the company's information systems infrastructure needed updating. More specifically, the company had been using (since 1993) an Electronic Data Processing System (EDPS) that had outgrown its usefulness. Among other concerns, this system did not support complex data processing and management, thus Hinton Mills depended on "smart employees" who could memorize data and do complex calculations quickly (and manually for the most part). As business expanded, the dependence on a few people was neither efficient nor reliable. Furthermore, as employees left the business or retired, base business operations were put in jeopardy. In addition, customer's expectations had increased over time and Hinton Mills needed a system that could address these needs. Management realized that for the business to remain competitive, it had to be able to change as rapidly as the needs of its customers.

Several concerns about the current ERP system were noted. The system did not provide support for customers to prepay. Many Hinton Mills customers (large farm owners who represented a significant portion of annual sales) preferred to pay for their feed and other products in a lump sum at the beginning of the season/year and then haul (or have delivered) the feed, etc. in smaller amounts, as needed, throughout the year. The current system did not provide a mechanism to accommodate this payment and delivery system. Thus, manual tickets had to be created for each of these customers and employees recorded each transaction manually on the tickets, with the tickets managed outside the information system.

The system did not accommodate multi-location support as the Flemingsburg site served as the hub of the information system, with the server and the system database at this location only. This system did not track system-wide inventories, nor did it permit intracompany inventory transfers. Employees at one location were therefore forced to phone other stores if additional inventory of an item was needed.

Furthermore, the current system was designed for the lumber industry. While supporting most of the company's general operations well for many years, the system had to be modified to accommodate the agricultural business and the majority of Hinton Mills customers were farmers. For example, employees had to do complex manual calculations to determine the specific mix of inputs needed to create customized blends of feed and fertilizer for customers.

Finally, the current ERP system was based on Command-Line Interfaces (CLI), similar to the old DOS or UNIX systems. While this interface might not be problematic for employees who had been employed by Hinton Mills for many years and were accustomed to these user interfaces, new employees and customers had difficulty or hesitation in using this type of interface.

REQUIREMENTS FOR A NEW ERP SYSTEM
Hinton Mills expected that a new system would address many of the shortcomings of the current system. The system would need to be able to manage data in a somewhat complex information systems environment (5 store locations, 27 computers/point-of-sale registers). Overall system cost was an important factor (but not the only consideration) and management evaluated the following features and components in determining which ERP system should be chosen:

- Designed (primarily) for the agriculture industry
- Prepaid accounts management: would help customers (usually large farm owners) who preferred to pay in a lump sum at the beginning of the year and draw down their prepaid inventory throughout the year
- Easy-to-use point of sale (POS) system: would help employees more efficiently serve customers
- Blend/mill ticket generation for feed and fertilizer mixing: would calculate, automate and create ingredient tickets for blending customized orders to better serve customers
- Electronic document management: would permit scanning and storage of documents in an electronic data format (e.g., pdf), thus eliminating the need for physical storage and space requirements for hardcopies of documents.
- Electronic document retrieval: would allow employees to easily access all documents from POS to pickup
- Multi-location support: would permit more efficient management of data and eliminate reliance on a centralized database location
- Internal consumption of inventory: would help management to monitor inventory levels at all store locations

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- Intracompany inventory transfer management: would permit efficient tracking of inventory at all store locations and the ability to automatically transfer inventory to a particular location if needed
- Taxes and exemptions at the point of sale: would permit farm tax exemptions to be managed at any location and at the time of sale, with the system automatically recognizing customer tax exemptions and product tax exemptions
- Price promotions: would permit management to use real-time data to analyze the need for sales/price promotions (e.g., promotions on specific dates, such as Mother's Day weekend, holidays, etc.) and permit management to pre-program temporary price changes for particular products during a specified period of time
- System and software support: provided by vendor

In addition to these primary system requirements, other desirable components in a new system that were considered by Hinton Mills management included:

- Split billing: would permit customers to purchase products as a group to leverage volume discounts but pay as individual members
- Field planning: would provide large farm owners with comprehensive soil sample analyses, appropriate crop selection, etc.
- Global Positioning System (GPS) Integration: would provide customers with useful information such as location, topography, etc.
- Veterinary Feed Directive (VFD)/Veterinary Medicine Directorate (VMD) support (prescription control): would address regulations required for veterinarians to prescribe antibiotics
- Mobile system support: would permit management and employees to use cellular networks to access inventory levels using mobile devices

NEW ERP SYSTEM ALTERNATIVES

After Hinton Mills top management's recognition that a new ERP system was needed, Matt Hinton was assigned the task of finding a system that would better fit the needs of the company. Matt used a multifaceted approach in researching system candidates, including searching the Internet, asking colleagues and customers, and reviewing competitors' systems. Three viable options surfaced from Matt's research.

Company A

Company A was started by a computer industry entrepreneur who now served as the company's CEO. Company A had been providing packaged software solutions

to agricultural companies for approximately 40 years and had grown significantly, with clients throughout the United States. The long-term stability and continued growth of the company was perceived to be heavily dependent on the person that served as its CEO and he was aging. Company A's ERP system provided the following features and concerns:

- Designed for the unique aspects of agribusinesses, including tax exemptions for farmers
- Could not analyze climate and soil conditions such that fertilizer formulations could be determined and produced to customer specifications
- Restricted use products – provided tools needed to manage controlled products (chemicals, etc.)
- Permitted prepaid accounts management
- Real time point of sale and accounting and payroll software solutions, but not as robust as competing systems
- Multi-location system and software support
- Capability to track inventory within each store location
- Capability to permit between-store inventory transfers
- Price promotions capability
- Split billing not available
- System and software support provided by vendor
- Mobile support capabilities available
- Graphical User Interface (GUI) and supporting forms were dated
- Electronic document management available, but not as robust as other options
- Veterinary Feed Directive (VFD)/Veterinary Medicine Directorate (VMD) - in development
- Did not have capability to generate tickets – blending inputs for feed and fertilizer mixing
- Cost
  - Software cost: $76,000
  - Annual Maintenance/Support Services - invoiced annually at a rate of 15% of final software cost

Company B
Company B had been delivering leading software solutions to the agribusiness supply chain for more than 25 years. The company constantly assessed industry trends in building systems to meet customer needs. Company B seeks to be a strong partner rather than just a vendor to assist clients with ever changing needs. Company B's ERP system provided the following features and concerns:

- Designed for the unique aspects of agribusinesses, including tax exemptions for farmers
- Provided tools to manage restricted use products (chemicals, etc.)
- Permitted prepaid accounts management
- Real time point of sale and accounting and payroll software solution
- Ability to set policies such that decision making time at the point of sale is reduced
- Ability to analyze climate and soil conditions such that fertilizer formulations could be determined and produced to customer specifications
- Graphical user interface (GUI) that provided intuitive interface
- No capability for mobile support
- Inventory tracking capabilities
- Inter-location inventory transfer capability
- Price promotions available for custom use
- Split billing available
- System and software support provided by vendor
- Veterinary Feed Directive (VFD)/Veterinary Medicine Directorate (VMD) – in development
- Cost
  - No base software cost
  - License Pricing (up-front cost): $2,700 per computer/point-of-sale register
  - Software Maintenance: 10% of the license price per year
  - System Support: 10% of the license price per year

Company C

Company C had been delivering software solutions for more than 30 years and was designed to streamline operations and inventories. Their software had been implemented in numerous companies and across hundreds of locations. Company C's ERP system provided the following features and concerns:

- Software designed primarily for the lumber industry but had been implemented in agribusiness companies
- Did not have capability to analyze climate and soil conditions such that fertilizer formulations could be determined and produced to customer specifications
- Provided tools to manage restricted use products (chemicals, etc.)-unavailable
- Prepaid accounts management available

- Real time point of sale, accounting, and payroll software solutions was very robust
- System and software support provided by vendor
- Electronic Data Interchange (EDI) connections to retailers and cooperatives across the United States – ability to build purchase orders electronically and leverage lower prices through arrangements with these entities
- Inventory tracking capabilities
- Inter-location inventory transfer capabilities
- Price promotions available for custom use
- Split Billing unavailable
- No capability for Veterinary Feed Directive (VFD)/Veterinary Medicine Directorate (VMD)
- Mobile capabilities available for use with iPad
- Outstanding Graphical User Interface (GUI), with built-in Web store front
- Strong email Push notifications for daily operations
- Very robust electronic document management
- Cost
  - Initial costs
    - Software: $3,900
    - Equipment (scanner): $1,195
  - Monthly fees
    - Application Suite Cloud License: $82 per computer/point-of-sale register
    - Multiple computer/point-of-sale register discount: 10%
    - Software Maintenance: $33 (not dependent on the number of computers/point-of-sale registers)

THE DECISION

With the research that began in early 2016 now concluded, Matt Hinton and Hinton Mills needed to select a new Enterprise Resource Planning system. The current system, effective in the past, was now straining to provide the data needed by management and employees to effectively run the business. By the first quarter of 2017, a new system was expected to be selected and implementation of the system begun. Hinton Mills had to make a wise decision that could dramatically affect its future.

REFERENCES

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