THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY

LOCATION:
Cincinnati, Ohio, United States

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Manufacturing

NOMINATING COMPANY:
Deloitte

ORGANIZATION:

Ethicon Endo-Surgery, Inc.

PROJECT NAME:

Enterprise Data Warehouse

Summary

To support Ethicon Endo-Surgery, Inc.'s vision to improve the quality of life for patients around the world, business leaders embarked on a groundbreaking initiative to implement an Enterprise Data Warehouse.

Ethicon Endo-Surgery, Inc. sought a cultural shift in how it delivers and analyzes business information. It created a warehouse of information to empower business leaders across the company to access timely, accurate, and critical data. As a result, these leaders can now make more effective decisions and adjust quickly to the needs of the marketplace, and ultimately to healthcare providers and patients.

With the foundation of the Enterprise Data Warehouse in place, the company is already reaping the benefits of being more data-driven and is in a position to meet future information delivery needs more effectively than ever before.

Introductory Overview

Johnson & Johnson is the world's most comprehensive and broadly based manufacturer of health care products, as well as a provider of related services, for the consumer, pharmaceutical and medical devices and diagnostics markets. As a Johnson & Johnson company, Ethicon Endo-Surgery, Inc. (EES) develops and markets a broad portfolio of advanced surgical instruments and medical devices for minimally invasive and traditional surgery. The mission at EES is to help physicians transform patient care through innovation and improve the quality of life for patients around the world.

In recent years, the health care market has become increasingly challenging. Business leaders from across the organization recognized that in order to maintain a competitive edge in the marketplace, foster innovation, support aggressive worldwide growth, and quickly adjust to a changing business climate, it is critical that they have ready-access to important and timely business information. Business leaders determined that this would enable them to make better and more strategic decisions and to steer the company to meet ever-increasing global demands.

To meet the need for timely, accurate, and readily accessible business information, business lead-

ORGANIZATION:
Ethicon Endo-Surgery, Inc.

PROJECT NAME:
Enterprise Data Warehouse

LOCATION:
Cincinnati, Ohio, United States

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Manufacturing

NOMINATING COMPANY:
Deloitte

ers at EES chose to implement the Enterprise Data Warehouse. The Enterprise Data Warehouse delivered:

·A common platform to enable leaders across the enterprise to effectively examine business information and make timely decisions

·A foundation for data consistency, process standardization, automation, and universal accessibility to easily allow for future growth and change

·A governance model reducing reliance on the Information Management department, empowering business users to create business analytical reports on their own, and access accurate and reliable data on demand

The Enterprise Data Warehouse (EDW) project started in September 2004 and was successfully implemented in July 2005. To date, the EDW provides critical reports for Ethicon Endo-Surgery Inc.'s Supply Chain in the Planning, Finance, Manufacturing, and Supplier Functional areas.

This is the first data warehouse of its kind at EES and because of its scalable and extensible design, it is not only able to accommodate future growth, but can be leveraged by other Johnson & Johnson companies. The EDW will continue to deliver on this vision by including other functional groups such as Sales, Marketing, Quality, Human Resources, and New Product Development. With the foundation of the EDW in place, EES is in a position to meet future information delivery needs more effectively than ever before. By providing better business information, the EDW is helping to accomplish the company's vision to improve the quality of life for patients around the world.

Benefits

Ethicon Endo-Surgery, Inc. is reaping the benefits of the Enterprise Data Warehouse. These benefits include the following:

Data Consistency

Perhaps the most important benefit that the EDW provides to the business is a single source by which information is reported and analyzed. Kame Kaneshiro, a Senior Manufacturing Specialist and the Supply Chain Reporting Business Lead explains:"Prior to the Enterprise Data Warehouse, different groups within Operations would generate a backorder report. Sometimes, these separate backorder reports would have conflicting information. This caused confusion and also delayed alignment around manufacturing priorities. With the implementation of the Enterprise Data Warehouse, we now have a centralized backorder report and no longer have this issue. From the production floor to the boardroom, everyone is on the same page. The backorder report is now integrated into our business process and is helping us focus the entire Supply Chain on the priority of product orders. We have increased our line item fill rate in half the projected recovery time by reducing the backorder amount by over 75 percent. Through the EDW we have the information needed to focus on the most critical orders and bring them more quickly to market."

Business Intelligence - Analytics

EDW provided the infrastructure to enable information driven decision-making. Business lead-

ORGANIZATION:
Ethicon Endo-Surgery, Inc.

PROJECT NAME:
Enterprise Data Warehouse

LOCATION:
Cincinnati, Ohio, United States

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Manufacturing

NOMINATING COMPANY:
Deloitte

ers can now more effectively analyze a business situation and make better decisions.

Business Authorship and Accountability

For EDW to be a long-term success, EES recognizes that business leaders need to be empowered to create reports and perform data analysis independently. The EDW was built with this in mind. Specific tools and processes have been set in place for business groups to leverage existing data in the EDW and generate reports pertinent to their functional area.

Common Language

EES is seeking to establish a common language across the enterprise. This goal is more elusive than what might be first assumed. In the recent past, separate business groups referred to business data in different ways and these differences were part of a well-formed business culture. To accomplish the task of changing this business culture, definitions for key subject areas were established. As the EDW has progressed, additional reports developed in other subject areas have leveraged existing definitions already established. Since, the business users associated with later reports had different definitions for the same type of data, the EDW team provided a mechanism to conform to the established definitions. Business users associated with reports now have the capability to communicate with ease and focus on making decisions. A common language for the enterprise is a major step towards supporting the vision of a self-service model. The data sources chosen for the EDW are now known enterprise-wide as the definitive source. Subsequent systems will depend on these data sources rather than recreating and maintaining redundant data.

Automation

The EDW is a departure from the traditional approach of developing reports by individual users. A completely automated solution has been implemented and has eliminated the need for manual manipulation of data. Confidence in the data is much higher as a result. Business users no longer need to be concerned with how the report was generated. Rather, time is now spent in the analysis of the data and what decisions need to be made accordingly.

Process Standardization

Prior to the EDW, business partners had the ability to generate reports sourced from various systems and alter them as needed. This resulted in confusion due to the lack of consistency. The EDW aligned the users across the enterprise by implementing business rules that include all valid exceptions. This process driven approach enables us to provide consistent, timely, and accurate information. Nic Ortiz, EES Business Unit Manager, asserts that "In our business unit, we use the EDW scrap reports weekly. We started using these reports for corrective and preventative purposes. The EDW has helped us standardize the scrap reports and as a result from decisions based on these reports, we are seeing significant improvements in our manufacturing processes."

Universal Accessibility

The EDW is web-enabled, allowing users to securely access reports on the intranet. Now authorized users from all over the world can access critical information anytime and anywhere.

Future Growth Potential

Having established the foundation, the EDW is currently perceived as a reliable data source. As

a result, it has generated great demand and received several requests to model after the success of the Operations department for other functional areas. Currently, the EDW is engaged in assisting the Finance department to achieve the status secured by Operations. EES has experienced a high rate of growth and change. This growth will be sustained for many years to come. To meet this challenge, the EDW will continue to develop standards for communication across the enterprise.

The Importance of Technology

Leveraging state-of-the-art technology is an integral part of the development of the Enterprise Data Warehouse and has provided Ethicon Endo-Surgery, Inc. with an edge in the following aspects:

·A common platform to enable leaders across the enterprise to more effectively examine business information and make timely decisions

·An extensible and scalable foundation to more easily allow for future growth and change

·A self-service model that empowers process experts within the enterprise to create new reports independently

·A fully distributed and secure system accessible by the entire enterprise anytime – anywhere.

·A separation of the EDW from its data sources. The data sources may change but the information contained in the EDW is independent of the source and continuity can be maintained in the face of change.

The initial implementation has provided a world-class data warehouse solution that includes a sound technical architecture. The EDW was developed based on principles of "Service Oriented Architecture". These principles provide the standard that outlines a disciplined framework for EES to address data acquisition needs.

The EDW technology has eliminated a common problem within different organizations that look at the same information but arrive at different conclusions. With central reporting from the EDW, a single "version of the truth" is now available. It is through the acceptance of the EDW that the company can now generate data in an organized, structured and uniform manner over the intranet. Jeff Giles, Enterprise One Program Manager explains, "What is exciting about the Enterprise Data Warehouse is that it is helping us become a data driven company. It provides the foundation to make these decisions based on current and accurate information instead of conjecture or supposition. The EDW has also helped us standardize our business processes making us even more effective."

The EDW technology has enabled us to achieve a wide array of key objectives - ranging from adapting to ever changing business needs to supporting complex business rules. While this required significant effort to achieve, the dividends are impossible to ignore. In the short span of a year from its birth, the project has received the attention from Johnson & Johnson headquarters and is considered to be a major stepping-stone for future expansion of business intelligence at EES.

Going forward, EES is forming collaborative partnerships between technical and business teams to share the responsibility of information delivery. Information technology teams will focus on

organizing the data in the warehouse while business teams will be focused on creating reports and analyzing the data. With the EDW serving as a central information delivery system, business groups are further enabled to manage their processes rather than focus on collecting data about their processes.

Through the use of the latest data warehousing technologies, EES is able to move towards a self-service model. This model is structured to enable business users to make incursions into traditionally technical areas without the steep learning curve normally associated with new technologies. This model is incredibly important to achieve long-term success of the EDW. By eliminating the dependency on a resource-constrained technical team, EES will have the agility to create business rules, develop reports, and analyze information on demand.

Originality

Ethicon Endo-Surgery, Inc. has embarked on an ambitious information delivery program to achieve the increasingly important competitive advantage of global business intelligence across the enterprise. In this quest, the Enterprise Data Warehouse has gone beyond the traditional approach of formulating a data repository for specific business areas, and has delivered an adaptable central nervous system for the enterprise.

Naturally, various business groups within Ethicon Endo-Surgery Inc. have their own terminology to refer to operations, sales and marketing, and other functional topics. The goal of the EDW was to bring these various business groups within EES to a common platform for information sharing – to provide a common language. The Enterprise Data Warehouse has rationalized the business definitions and published it for business use and now business users across the enterprise have come to an agreement on how to better interpret the information. For instance, interpretation of a given product code was inconsistent across different functional groups. The Enterprise Data Warehouse has provided a standard set of definitions to the business. As a result, business users are now able to communicate more effectively across functional groups.

Considering the growth the company has experienced in the past and the anticipated growth and change for the future, this capability is proving to be an invaluable asset for the business. As a result of this achievement, the EDW now facilitates an increasingly effective decision making process and serves as a stepping-stone for better information delivery to the enterprise.

The Enterprise Data Warehouse has gone beyond the traditional approach of formulating a data repository for specific business areas, and has delivered an adaptable central nervous system for the enterprise.

Success

The EDW is beginning to transform the way the business uses information. Through the analysis of data rather than the assembly of data, the business is beginning to see significant improvements such as:

·Over 75% efficiency gains in fulfilling orders·Over 50% reduction in recovery time

·Elimination of compliance report reconciliation – quarterly savings of over 200 hours of work.· The ability to view historical information.

·An effective Interface with external auditors

·A fully automated reporting mechanism

To summarize, the Enterprise Data Warehouse has achieved the following:

1.Provided a foundation for reporting business information and developed over 50 critical reports that provide accurate and timely data"In the past information was used to merely meet monthly financial requirements. Now, with timely and accurate information through the Enterprise Data Warehouse, we have a management tool that enables more effective decision making."-Anjum Mirza, Finance Manager

2.Offered significant savings both in terms of recovery time as well as efficiency in servicing business needs realized by the business. This was largely due to the data provided in the report by Enterprise Data Warehouse. This has transformed the way data was being used by the entire Operations group. As a result, Ethicon Endo-Surgery, Inc. is realizing the long-term advantage of standardized processes to use and share information. "The Enterprise Data Warehouse has removed the ambiguity from the process of obtaining financial data which has helped align different business groups to focus on decision making rather than questioning data accuracy."-Anjum Mirza, Finance Manager

"With the EDW, we have raised the bar with our reports -- we now have zero tolerance for errors. In the past, generating some of our reports was not a simple process and we were forced to live with a considerable amount of manual effort in order to achieve 100% accuracy."- Dan Mueller, Senior Financial Analyst

3.Developed a flexible model to effectively collaborate between technical and business groups. Provided a mechanism that reduces reliance on the Information Technology team – a self-service model."Creating a generic model that can quickly adapt to change has always been a challenge. We have successfully developed a generic model that enables us to quickly adapt to changing business needs."- Sam Hughes, Data Architect

4.Viewed by J&J as one of the key initiatives. Specifically selected to participate in the prestigious event held by J&J corporate to showcase high potential projects.

Difficulty

When the enterprise data warehouse was proposed, it was met with much resistance. Valid concerns were raised. The cost of implementing EDW, for example, was much higher than implementing a traditional data repository. Doubts were also raised regarding the risks related to going against conventional wisdom and simultaneously launching alongside a program to completely overhaul the company's ERP system (which was the major source of data for the EDW). Since the EDW was a new concept to the organization, there was some division over the value of proceeding and the potential outcome. The business case for the project was mainly based on providing a reliable source that organized all the data in a consistent manner, and providing a common language across the enterprise. Understanding that data warehouse projects typically have a low probability of initial success, EES recognized that the risk was worth taking.

Thus the EDW project began. The entire project was challenging to say the least. As we expected, the project became a tale of technological potholes, difficult demands, punishing deadlines, complicated business rules, and multiple miscalculations. The scope of the first release was very

ORGANIZATION:
Ethicon Endo-Surgery, Inc.

PROJECT NAME:
Enterprise Data Warehouse

LOCATION:
Cincinnati, Ohio, United States

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Manufacturing

NOMINATING COMPANY:
Deloitte

large and was further challenged by a moving target (ERP data). In the end, EDW overcame these difficulties and EES is in an excellent position to benefit from the new business information now available.

.