

ERP System Upgrade for New Zealand Casing Company Limited

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ABSTRACT

A new material requirements planning system, provided by Abel Solutions, was chosen for New Zealand Casing Company Limited (NZCC) after an analysis of their legacy systems and designing an improvement scheme. The new system is expected to be fully installed by the middle of the fourth quarter of 2017 and will replace NZCC's legacy production, inventory management, scheduling, time attendance, quality control, CRM and purchasing systems. Their legacy systems consisted of paper-based forms, spreadsheets and MYOB AccountRight. The system upgrade targeted key areas such as data validation, data integrity, data consistency, security and data sharing, which were either non-existent in the legacy system or completed as ad-hoc processes. Product traceability and management were also enhanced through the addition of internal and external barcoding schemes and product batching. Increased employee availability and improved employee morale are the forecasted benefits of the system upgrade.

Keywords: enterprise resource planning, manufacturing, systems analysis and design, project management, material requirements planning

1. INTRODUCTION

New Zealand Casing Company Limited (NZCC) is a sausage casing manufacturer located in Whataku, Hawke's Bay. NZCC prides itself in manufacturing high quality, all-natural sausage casings from animal intestines that are Halal certified. NZCC started in 2013 after rebranding from another business. Since then, it has experienced significant growth and expansion in the sausage casing manufacturing market.

Although NZCC has grown sharply since its opening, its systems that manage inventory, production, scheduling, CRM, QC and purchasing have not. In fact, they have remained the same since the business started. These systems, which are managed by Excel spreadsheets, paper-based forms, whiteboards and MYOB, have become difficult for management to use, and it takes a considerable time investment each week to maintain the business's data. Moreover, significant issues exist with the current systems such as data integrity, redundancy, security and sharing. These issues arise from the lack of a fully-integrated system where data is live, backed up regularly, shared and only needs to be entered once.

Since a significant investment is made daily by management to take control of the business's data needs, employee availability has declined. Several hours can be spent each week re-entering data into different applications, and rectifying errors or inconsistencies is an arduous task for management.

2. THE INTERNSHIP

This internship focused on analysing the current systems in place at NZCC and designing workable solutions for improving these systems. The systems that were analysed were production, inventory management, CRM, QC, scheduling, employee attendance, purchasing and shipping. The goal of the internship was to address the issues described with the old system and increase employee availability and morale.

To address the issues facing NZCC, a COTS ERP software package was sourced and evaluated against the system requirements of NZCC. As part of the internship, meetings, demonstrations and client site visits were arranged with management to help them to decide which ERP software provider would be best for NZCC. Moreover, the internship involved helping employees cope with change, preparing management for the changeover, training users and managing the system upgrade up to prototyping.

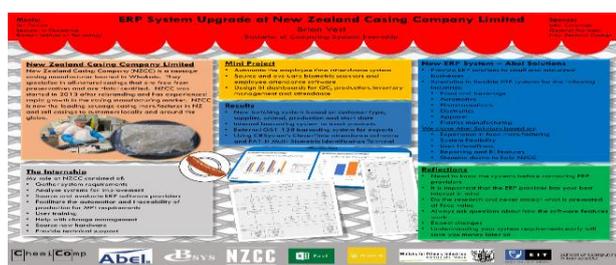
3. MINI PROJECT

The mini project associated with the internship involved automating the capture of employee attendance and facilitating management to address employee attendance issues. Additionally, the mini project involved the creation of BI dashboards that facilitate decision making by management. The BI dashboards targeted key areas of the business such as production, scheduling, QC and employee attendance. The BI dashboards needed to be easy to understand and easy to update with current data.

4. RESULTS

Five New Zealand-based ERP providers were contacted, and the system requirements of NZCC were discussed with them. After viewing two series of demonstrations from each ERP, contacting and visiting their clients and discussing the features of each ERP with management, it was decided that Abel Solutions provided the best fit for NZCC's requirements. It was chosen based on the following key criteria:

1. Extensive experience in the food manufacturing industry.
2. User friendliness of back office and factory floor screens.



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3. Flexibility of features to meet the growth of the business.
4. One fully-encompassing system.
5. Genuine desire to improve NZCC.
6. Meet the product traceability demands imposed by MPI.
7. Ability to produce flexible reports and dashboards.

A product batching scheme was designed based on the animal, customer type, supplier, and initial processing date. To facilitate product tracking through purchasing, production and shipping, a barcoding system was also implemented. A series of internal barcodes would be used to track casks located in cold storage, batch numbers, product types and outgoing barrels. GS1-128 barcode labels would also be generated for shipping manifests to assist customs and customers to identify the contents of each shipment.

A series of BI dashboards were generated within Microsoft Excel to assist management with decision making based on historic data. The BI dashboards cover key production, scheduling, QC and employee attendance areas such as cutting temperatures, cutting length checks, green runner counts, QC checks, tanking times and temperatures, cleaning scores, utilities costs, calibration checks and employee hours and attendance. Additionally, data can be copied from the new system into the spreadsheet and easily updated.

Capturing employee attendance was automated using a FA1-H facial recognition scanner that integrates with CBSystem's

CleverTime software. Employee attendance data can be exported as a CSV file and imported into NZCC's payroll system. Hence, management no longer needed to manually enter the data into the payroll system. Additionally, CleverTime automatically deducts time for late employees or for those who leave excessively early. It also calculates overtime and manages factory attendance for health and safety purposes.

5. CONCLUSION

A new ERP system was chosen and will be installed at NZCC in the middle of the fourth quarter, 2017. The ERP system facilitates the automation of key processes within NZCC and reduces errors and inconsistencies associated with a non-integrated, paper-based systems. The overall result of the upgraded system should be better quality data, improved security and increased employee availability.

In addition to the ERP system, the employee attendance system was upgraded to automate the capture of employee attendance data. Additionally, BI dashboards were created for management to use in long-term decision making based on historic data from key business processes.