

VAI S2K BLACK RIVER PRODUCE

ANALYSTS

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THE BOTTOM LINE

Black River Produce deployed VAI S2K Enterprise for Food with a voice warehouse picking system to transform the business model from a manual system, replace an enterprise planning application, and support its future growth plans. Nucleus found that the project enabled Black River Produce to increase efficiency, visibility, and accountability. Key benefits included increased productivity, reduced losses from shrinkage and errors, and increased customer satisfaction.

ROI: **45%**

Payback **2.3 years**

Average annual benefit: **\$ 1,188,529**

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THE COMPANY

Black River Produce is a food service distributor located in North Springfield, Vermont. It has delivered fresh and frozen provisions from local farms and regional markets to buyers throughout Vermont, northwestern Massachusetts, half of New Hampshire, and eastern New York for more than 30 years. Local products are key to the company mission and philosophy. Employing more than 180 people, the company's revenue exceeded \$78 million in 2015.

THE CHALLENGE

Black River Produce's goal is to become the most efficient local food distribution center for northern New England and eastern New York, but in 2011 it found that its existing technology was limiting its ability to scale and grow:

- The existing enterprise resource planning (ERP) application had been heavily customized and, as a result, had not been upgraded in some time. A significant amount of staff time was devoted to just keeping the application operational, and the aging technology didn't address many of Black River's functional needs.
- Reporting within the existing application was difficult and time consuming, and offered only limited visibility into business operations because of challenges with integration of data from the warehouse and other areas.

Black River needed a system that would provide greater end-to-end visibility into the business from the warehouse to orders and deliveries, and could support its growth needs.

Cost : Benefit
Ratio | **1 : 1.4**

THE STRATEGY

In 2011 Black River identified the need for a new ERP system and began its due diligence in 2012. A number of solutions were evaluated before selecting VAI. A dedicated project manager was hired to manage the process and in 2014 the company ultimately selected VAI S2K Enterprise for Food for a number of reasons including:

- Black River determined that the functionality of VAI S2K met the company's current and expected needs.
- Black River believed that VAI S2K offered a comprehensive solution with real-time availability, warehouse management, inventory controls, and the infrastructure necessary to grow with Black River's business expansion.
- Black River identified that the functionality of VAI S2K provided the ability to add additional services such as barcodes and receiving, and could be integrated with voice picking.

TYPES OF BENEFITS



VAI S2K was deployed on March 28, 2015, and it took 10 months to extract all the data from the company’s existing software. As a part of the implementation the team led a companywide effort to develop comprehensive standardized operating procedures for all business units that would better support operations for the future.

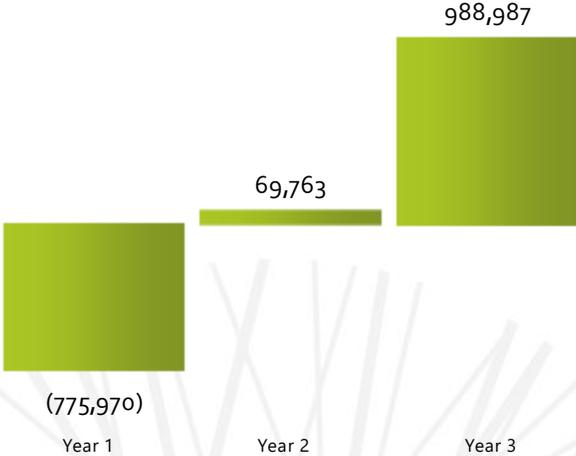
VAI provided consulting and training services for the implementation. Black River was committed to a timely deployment and dedicated the project manager to oversee the project. Internal training was completed within the first year and included all warehouse personnel, accounting, drivers, buyers, and sales staff. At the same time Black River implemented and integrated a Vocollect speech interface application.

KEY BENEFIT AREAS

Deployment of VAI S2K initiated a business transformation that supported Black River’s mission of increased efficiency, full accountability of all departments, and a support plan for continued growth. Key benefits of the project include:

- Increased productivity. The implementation of voice picking and other automation increased productivity and efficiency in the warehouse. Visibility across the business for accounting, buyers, and sales reduced the time spent searching for information for decision making.
- Reduced inventory shrinkage. The implementation of a voice picking system and accessibility of real-time business analytics resulted in reduced shrinkage.
- Decreased errors. Greater visibility and automation resulted in fewer customer credits issued because of delivery errors and incomplete deliveries. Lost sales can now be tracked and monitored. This significantly reduced returns and enhanced customer satisfaction.
- Increased visibility. With greater visibility into business operations across the board, managers can now implement and track the impact of their decisions while having a better handle on employee and team performance.

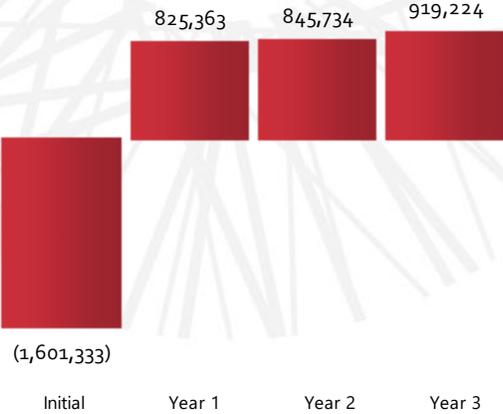
CUMULATIVE NET BENEFIT



KEY COST AREAS

Costs of the project include software licenses and maintenance (including VAI and Vocollect), hardware, consulting, personnel time to implement and support the application, and employee training.

NET CASH FLOWS



BEST PRACTICES

Black River benefited from VAI S2K with the deployment of a comprehensive ERP system that delivers real-time data, companywide accountability, and improved operating efficiencies. During the investigative period, senior management

recognized the need for a dedicated project manager to plan and manage the implementation.

Black River also believed that although this deployment was a technology installation, it could produce a significant cultural change for employees, whose performance would now be evaluated by measurable standards. It hired an individual with the skill set that could successfully navigate the deployment process and build consensus to unite the staff.

CALCULATING THE ROI

Nucleus quantified the initial and ongoing costs of software licenses and maintenance fees, hardware expenses, personnel time to implement and support the application, employee training time, and consulting to calculate the total investment in VAI S2K.

Direct benefits quantified included the avoidance of four additional full-time equivalent warehouse hires because of increased efficiency through voice picking, reduction of inventory shrinkage, and reduced customer credits for errors and missing deliveries. Indirect benefits quantified included the increased productivity of staff in a number of departments including accounting, buying, and sales, and were quantified based on the average annual fully loaded cost of those employees, applying a correction factor to correct for the inefficient transfer of time between time saved and additional time worked.

Not quantified were the reductions in customer churn that will result from Black River's ability to provide more data-driven customer service, and the long-term impact of Black River's investment in technology to support changes in culture that will enable it to grow more scalably and profitably.

FINANCIAL ANALYSIS

VAI S2K

Annual ROI: 45%

Payback period: 2.3 years

BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	971,360	1,010,360	1,051,310
Indirect	0	177,165	177,516	177,876
Total per period	0	1,148,525	1,187,876	1,229,186

COSTS - CAPITALIZED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	428,569	0	0	0
Hardware	256,452	0	0	0
Project consulting and personnel	0	0	0	0
Total per period	685,021	0	0	0

COSTS - DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	85,714	85,714	85,714
Hardware	0	51,290	51,290	51,290
Project consulting and personnel	0	0	0	0
Total per period	0	137,004	137,004	137,004

COSTS - EXPENSED	Pre-start	Year 1	Year 2	Year 3
Software	0	166,035	151,035	136,035
Hardware	0	19,727	53,707	36,527
Consulting	279,012	0	0	0
Personnel	403,200	137,400	137,400	137,400
Training	234,100	0	0	0
Other	0	0	0	0
Total per period	916,312	323,162	342,142	309,962

FINANCIAL ANALYSIS	Results	Year 1	Year 2	Year 3
All government taxes	45%			
Cost of capital	7.0%			
Net cash flow before taxes	(1,601,333)	825,363	845,734	919,224
Net cash flow after taxes	(1,188,993)	515,602	526,805	567,225
Annual ROI - direct and indirect benefits				45%
Annual ROI - direct benefits only				37%
Net Present Value (NPV)				216,034
Payback period				2.3 years
Average Annual Cost of Ownership				858,867
3-Year IRR				17%

All calculations are based on Nucleus Research's independent analysis of the expected costs and benefits associated with the solution.