



Trucking Company Rolls Out Integrated Business Intelligence Solution to Drive Profits

Overview

Country or Region: United States

Industry: Transportation and logistics

Customer Profile

Based in Las Cruces, New Mexico, Mesilla Valley Transportation (MVT) provides transportation services in the United States, Mexico, and Canada. It employs 1,500 people.

Business Situation

MVT did not have an enterprise business intelligence (BI) solution. Staff manually manipulated data to gain visibility into performance and profitability or asked IT staff to pull reports.

Solution

MVT chose a Microsoft BI solution with interoperable technologies from the database to the desktop. Now, employees are empowered to monitor, analyze, and report on business performance using familiar tools.

Benefits

- Improves information access
- Increases profitability
- Inspires employee performance
- Optimizes resource utilization
- Reduces IT staff involvement

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Michael Kelley, Director of Information Technology, Mesilla Valley Transportation

Mesilla Valley Transportation (MVT) is one of the largest transportation providers in Western Texas and Southern New Mexico, with a fleet of 800 trucks and 3,500 trailers that haul goods across North America. To manage costs, MVT needs to watch every penny and count every mile per gallon, per driver. Yet, employees struggled to understand profitability and performance, manually cobbling together information from siloed data sources using disparate tools. After deploying an interoperable suite of Microsoft business intelligence technologies, staff members can access, manipulate, and share data using familiar Microsoft Office technologies and dashboards with drill-down capabilities. With reliable business data, MVT is measuring the efficacy of its cost-saving initiatives, motivating employees to perform better, cutting costs, and driving profitability to stay competitive.



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Mesilla Valley Transportation

Situation

Royal Jones was an 18-year-old truck driver when he founded Mesilla Valley Transportation (MVT) in 1981 with truck mechanic Jimmy Ray. They began with three rigs, hauling refrigerated perishable goods from Las Cruces, New Mexico, which is still the location of their corporate office. The nerve center of MVT, however, is its terminal in El Paso, Texas, where dispatchers and fleet managers guide 1,200 company drivers and 250 contract drivers across the United States, Canada, and Mexico. It is here that approximately 100 mechanics service the company's fleet of more than 800 trucks and 3,500 trailers. Equipped with a global positioning system (GPS) device and an engine control module (ECM) that generates gas consumption data, the rigs are on the road 24 hours a day, 365 days a year.

MVT built its business through great customer service and a loyal workforce. However, rising fuel prices and an economy running in the slow lane have thrown up a significant roadblock for the transportation industry. Today, more than ever, MVT needs to understand its costs to drive profit margins and keep its fleet on the road. "We're in a very competitive environment, and those who operate most efficiently will win," says Jones, now Chief Executive Officer, President, and majority owner of MVT.

Fuel is one of the company's biggest costs. MVT buys approximately 1.5 million gallons of diesel per month. In the transportation industry, cost-savings of minute proportions can have a significant effect on profitability. Improving gas mileage by only one-tenth of a mile per gallon translates into a savings of 15,000 gallons of diesel per month. Unfortunately, MVT lacked a business intelligence solution that could help gain visibility into the company's operations at a detailed level, let alone

measure the effectiveness of its cost-saving initiatives.

"We also had a problem on the financial side of the house," says Mike Kelley, Director of Information Technology at MVT. "Our transportation management system didn't provide consolidated reports or historical information for trending analysis. Our complex corporate structure includes multiple companies using multiple accounting systems. Producing a consolidated financial statement was a manual, time-intensive process."

Dean Rigg, Chief Financial Officer at MVT, wanted tools to measure corporatewide performance. "Business intelligence is about showing employees our goals and encouraging them to perform. We had no way to say to everyone, 'Here is where we are today; this is where we want to be tomorrow.' Instead, the route planners and fleet managers had to pull month-old data from a variety of places. They were making business decisions based on a gut feeling rather than from factual information."

Key performance indicators (KPIs) were calculated monthly, using complex Microsoft Office Excel worksheets. Management turned to the IT department for custom reports on KPIs such as average miles per truck, per day; rate per mile, per area; long idle/short idle data; business by sales representative; and average accessorial revenue per truck (extra services that are billable, such as including several workers to unload goods, or just-in-time delivery). Soon, 3 of the 11 IT staff members were working full time delivering reports. IT staff members struggled to consolidate data from disparate sources. Also, they used different methodologies for reports, which diluted management's faith in the data.

"We realized we needed to consolidate our data sources, build an efficient data model to deliver up-to-date reports, and store the reports in a central place for self-serve business intelligence," says Kelley. "We had begun using Microsoft Office SharePoint Portal Server 2003 to store reports, and we were building a Microsoft SQL Server 2005 data warehouse. However, when we tried Crystal Reports for our reporting tool, we experienced authentication issues with SharePoint Portal Server 2003."

So, MVT turned to a product called OutlookSoft for its business reporting management solution. Nine months later, IBM purchased Outlook Corporation and announced that OutlookSoft would no longer interoperate with Office SharePoint Portal Server 2003. MVT found itself at a crossroads.

"We immediately started looking for a comprehensive business intelligence solution from a single vendor," says Kelley. "In these tough economic times, we didn't want to pay for a costly, difficult-to-use solution or try to cobble different tools together. The solution had to be easy to deploy and use so we could start seeing the value sooner rather than later."

Solution

Mesilla Valley Transportation chose a business intelligence solution from Microsoft. The solution provides MVT with a suite of interoperable technologies that gathers data from the company's systems, creates customized reports and dashboards for analysis and drill-down, and makes reports available to employees through familiar Office system technologies.

"A Microsoft solution provides one-stop shopping for all our business intelligence needs," says Rigg. "And with a suite of interoperating technologies, our IT staff

won't have to spend too much time trying to get different tools to work together."

Solution Partner Helped with Fast Deployment

MVT was anxious to begin reaping the benefits of its new business intelligence solution, so it engaged Microsoft Gold Certified Partner Artis Consulting to develop a world-class business intelligence solution strategy that would leverage all of its existing technologies. "Artis came highly recommended by Microsoft as a go-to partner for business intelligence and SharePoint deployments," says Kelley. "The team was extremely knowledgeable about building efficient data models and had a very strong SharePoint practice, which fit our needs perfectly. We set an aggressive deadline to complete two sets of dashboards and scorecards to cover KPIs for the fleet planners and route managers, which added to the challenge."

Artis first recommended migrating to a SQL Server 2008 data warehouse for improved performance and data visualization capabilities for the two portal dashboards. Next, Artis helped MVT deploy a Microsoft SQL Server 2008 Enterprise database that would provide the company with SQL Server Reporting Services, which is a server-based report-generation software system, and Microsoft SQL Server Analysis Services, which delivers online analytical processing (OLAP) and data mining functionality for business intelligence applications. "We worked closely with MVT IT staff to refine a data model that could be leveraged across dashboards, standard reports, and ad hoc reporting using Excel," explains Mark Hart, Partner at Artis Consulting. "By leveraging [SQL Server] Analysis Services, we were able to help create the foundation to serve numerous reporting needs."

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Mark Hart, Partner, Artis Consulting

Then, Artis upgraded MVT from Office SharePoint Portal Server 2003 to Microsoft Office SharePoint Server 2007 Enterprise to create an information portal that provides self-serve access to dashboards, reports, and structured and unstructured content. “We always recommend Office SharePoint Server 2007 as a key element in the Microsoft BI suite, as it provides a centralized location for collaboration and information dissemination,” Hart says. “We worked with the folks at MVT to design two dashboards—one for the fleet managers and one for the route planners—that provide at-a-glance status of key metrics and current business conditions. Office SharePoint Server 2007 is a great product in terms of advanced visualization tools, and we were able to help deploy dashboards to high-light where MVT is on particular metrics.”

The dashboards also contain a Bing Maps representation of each truck’s current location. The Bing Maps component uses a web service to bring location information from the trucks’ GPS devices into the data warehouse, where it is available for reporting. Another web service brings ECM data from the trucks into the data warehouse; so, for the first time, MVT route planners can easily access gas consumption statistics for each driver.

“We are very pleased with the work that Artis Consulting provided MVT,” adds Kelley. “They worked very quickly to meet our deadline. In just three weeks, we had a basic framework for our information portal, two dashboards, and a new SQL Server data repository.”

Optimized Data Warehouse Generates Consolidated Data

Instead of multiple data marts, the solution’s optimized data warehouse generates a single version of consolidated data that is useful for a variety of audiences. “The team

from Artis worked with the data that had been loaded into SQL Server 2005 and consulted with us to create an Analysis Services cube for route planners and fleet managers who needed more detailed data, and for financial executives looking for broad performance measurements,” says Colleen Barnitz, Director of Business Intelligence at MVT. “Now, everyone can leverage the same underlying data structures.”

Using the suite of Microsoft business intelligence technologies, Barnitz engineered a way for headquarters to communicate with drivers en route. She used data-driven subscriptions through SQL Server Reporting Services to send drivers email messages. She also used this solution to track individual drivers as they moved from truck to truck in order to better analyze a new KPI: miles per gallon, per driver.

MVT completed the rollout of its business intelligence solution in December 2009. Today, more than 300 employees in 30 departments use it as an integral part of their work environment.

Benefits

Mesilla Valley Transportation is using its Microsoft business intelligence solution to gain unparalleled visibility into the business so that it can compete in a tough economy. “We depend on our Microsoft BI solution to maximize performance and productivity,” says Kelley. “It’s empowering our employees to take advantage of current data so we can work together to keep MVT trucks on the road. And the more we are able to deliver reliable business insights to improve performance, the better equipped we are to make the right decisions—decisions that save time and money.”

Since deploying its business intelligence solution, MVT has improved information

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access, increased profitability, and improved employee performance and resource utilization—all without incurring extra work for the IT department.

Improves Information Access

Now MVT employees have easy access to the business data they need to do their work. With KPIs calculated daily instead of monthly, and with reports and graphical dashboards at everyone's fingertips, employees at MVT are experiencing a sense of empowerment to make a difference in the company's bottom line.

"We have installed a bank of LCD TVs at our operational center," says Kelley. "From our data warehouse, we can serve up rotating reports on the screens for the different groups we have working there: customer service, planners, and fleet managers. That way, they have snapshots of the different numbers that they need in front of them, all day, every day. And if fleet managers see a red flag saying they are not getting enough miles, they can go to their workstations, open up the Office SharePoint Server 2007 portal, and start diving into the details. If they want, the fleet managers can export the numbers into Excel and share it with colleagues."

Increases Profitability

Now that MVT employees have performance information at their fingertips, they can measure the effects of the company's cost-saving initiatives and fine-tune their efforts to maximize profitability. MVT employees are using the business intelligence solution to create new KPIs that have a direct bearing on profitability and revenue. "We are now able to identify truck accessorial charges that haven't been billed," says Kelley. "We have increased the average accessorial revenue per truck by 17 percent over last year's average."

Today, it costs MVT four cents a mile to maintain its trucks; three years ago, it cost 12 cents a mile. Thanks to effective cost cutting measures, the company is running its trucks 25 percent more efficiently than the industry standard.

"While there are a whole slew of efficiencies that we can attribute to these benefits, before, we could only guess at what we were doing right," says Rigg. "Today, we use our Microsoft BI solution to understand what's working and what's not. Now that we can see what we are doing right, we have been able to move our cost savings targets up by 20 percent and still make our goals."

Inspires Employee Performance

The new BI solution at MVT supports and ratifies new cash incentives awarded to managers and departments for achieving various benchmarks. Zeke Rodarte, Maintenance Service Manager at MVT, compiles reports comparing current costs to the previous year and sends the reports in email to all employees. He says they have become very popular reading.

"We set attainable performance goals, and, using the BI solution, employees can see how they are doing every day," says Rigg. "When people can see how close they are to reaching a goal, they get really motivated. It's made a huge difference to performance across the board."

Recently, the company rolled out its Sales Lane report. Sales representatives use this report to see month-over-month and same-month/previous year performance comparisons. MVT also introduced a new report for customer service representatives to view potential missed charges so they can self-monitor their billing accuracy.

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Using its new BI solution, MVT started sending out daily alerts to its drivers telling them their mile-per-gallon ranking within their fleet. Each quarter, MVT awards a Harley-Davidson motorcycle to the driver with the best miles per gallon, and each year it gives U.S. \$25,000 to the driver who maintained the best gas mileage for an entire year. It also awards \$500 quarterly bonuses to drivers at the top of the fuel-efficiency charts. "We've noticed an increase in our drivers' motivation to reduce their miles per gallon since introducing this solution," says Kelley. "If they know their position on a daily basis, drivers can start changing their driving behavior for the positive, and we reap the benefits. Even a small increase, say one mile per gallon more a day, equates to an annual savings of around \$6 million dollars at today's fuel prices—and it doesn't cost us any effort, except to generate one report."

Optimizes Resource Utilization

MVT is also using the solution to monitor and optimize resource utilization. The rigs are only making money if they are on the road hauling loads; however, they make more money if they cover the distance as efficiently as possible. MVT averages about 12 million miles per month, so even a slight increase in the cost required to move a truck from point A to point B can have a dramatic effect.

To improve truck utilization, MVT launched a new incentive program for operations staff. Now, staff can access reports that show daily miles run, current fuel consumption, and current average rate-per-mile data from a truck's ECM and take steps to achieve goals that trigger a monetary reward. "If a fleet manager sees that the fleet is not getting enough miles, he or she can drill into which trucks are not performing and call the drivers in for training to get their miles up before the

end of the month," says Kelley. "Since drivers and the company are both paid based on miles driven, this is helping increase the company's profits and the drivers' pay."

Reduces IT Staff Involvement in Reporting

Instead of three people working full time to fulfill employees' requests for information, MVT is much further along the road to true, self-serve business intelligence. This is good news for an IT department that is kept busy with the daily challenge of supporting a rapidly growing company.

"In many respects, we are a midsize company, but we have the complexities and demands of a large enterprise," says Kelley. "We couldn't handle a business intelligence solution that added to our workload. Instead, the modularity and ease of use of the Microsoft tools allow minimal development and training time. The Microsoft BI product line is maturing quickly to advance midsize companies beyond what the lumbering giants in the enterprise space can do."

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