

Alteryx Enables Rapid Analytical Development and Deployment at A.H. Belo's The Dallas Morning News

Executive Summary

ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) authors return on investment (ROI) case studies covering enterprise management products that demonstrate above-average customer value.

This EMA ROI case study profiles the time, resources, and workload savings that the A.H. Belo Corporation's *The Dallas Morning News* achieved by implementing Alteryx, as well as the significant and new opportunities and capabilities this implementation has opened up for them.

Alteryx provides an analytics platform that supports data blending, predictive analytics, and spatial analytics. In addition, Alteryx Analytics enables users to share analytic applications with other analysts and front-line business decision makers through a browser or server-based Analytics Gallery.

With over 400,000 daily subscribers, *The Dallas Morning News*, a major daily newspaper serving the Dallas, Texas area, has one of the 20 largest paid circulations in the United States.

This case study documents the tangible financial impact in terms of ROI. It also details the value of the Alteryx solution in terms of softer benefits to the A.H. Belo Corporation's *The Dallas Morning News* organization in general and particularly its information technology (IT) operations and support team.

Alteryx

Background

Alteryx Inc. (www.alteryx.com) is a leading provider of data blending and advanced analytics software. The Alteryx analytics platform delivers deep analytical insights by blending internal, third-party, and cloud data to make it available for analysis using spatial and predictive drag-and-drop tools. Alteryx analytics provides analysts with a single intuitive workflow designed to enable accelerated return of business insights with no programming required.

Alteryx has more than 1000 customers and over 200,000 users worldwide representing a broad range of industries: communications, financial services, health care, commercial real estate, consumer packaged goods, marketing service providers, restaurants, and retail. Alteryx customers include Experian, Ford, and McDonald's. Alteryx was founded in 2010 and is headquartered in Irvine, California with regional offices in Silicon Valley, Dallas, Chicago, Australia, and the United Kingdom as well as a development center in Boulder, Colorado.

HIGHLIGHTS

Customer name: A. H. Belo Corporation - publisher of The Dallas Morning News

Customer domain: Media and Publishing

**A.H. BELO
CORPORATION**

Vendor name: Alteryx

Product area: Data blending, Advanced analytics

alteryx

Product name: Alteryx Designer, Alteryx Server

Product Description

The Alteryx solution implemented is built on two core components: Alteryx Designer and Alteryx Server.

With Alteryx Designer, analysts can access a broad range of data types and structures, including data warehouses, location data, cloud app data, Excel spreadsheets, big data sources, and others. Data quality, integration, and transformation tools enable users to prepare, cleanse, and blend data for analysis or visualization. Alteryx Designer also supports the ability to do advanced analytics such as R-based statistical and predictive analysis, as well as spatial and location analysis through drag-and-drop tools in an intuitive workflow. These advanced analytics capabilities can take advantage of data from SPSS and SAS as well as spatial and location data from ESRI, flat files, big data sources, and a wide variety of other sources. Analysts can use Alteryx Designer to deploy such techniques as drive time, trade area, spatial matching, and point creation, and can blend location data with demographic and other third-party data. Designer supports sharing of analysis as results can be output to formats such as Microsoft Excel, ESRI, XML, PDF, and visualization tools such as Tableau and QlikView.

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The Alteryx Server schedules analytics, processes jobs, hosts analytics apps, renders map tiles, and controls workloads. With Alteryx Server, an organization can publish and share analytics applications via a private gallery environment behind their own firewall, which can be configured to use existing Windows authentication for easy access. The server can be deployed on a single machine or a multi-node environment as needed.

The Dallas Morning News

Background

Founded in October 1885 by Alfred Horatio Belo, *The Dallas Morning News* is a major daily newspaper serving the Dallas, Texas area. With over 400,000 daily subscribers, the paper has one of the 20 largest paid circulations in the United States. It has won numerous Pulitzer Prizes and other honors for reporting and photography. The company is headquartered in Dallas, TX.

Implementation Team Needs & Product Uses

The Dallas Morning News uses Alteryx in support of a newly-implemented enterprise data warehouse (EDW) that supports a wide variety of analytics and use cases across the entire *Dallas Morning News* organization, including the following.

- Data transformation and movement
- Automation of analytics and data preparation tasks
- Development of predictive models in-house
- Operationalizing of data governance and data cleansing

In support of their ongoing data warehouse operations, Alteryx brings together data from numerous sources, including standard third-party solutions such as ExactTarget, Omniture, and Google Analytics. Alteryx is also used to ingest and cleanse **web data** directly from the newspaper's website, along with the full set of **subscriber data** from the organization's customer relationship management (CRM) and other transactional processing systems. Additionally, Alteryx provides access to all **product data**, including a massive news database. Moreover, the Alteryx solution integrates specialty data from third-party, knowledge-based market, demographic, and lifestyles databases.

In developing this report, EMA interviewed the Manager of Marketing Analytics for *The Dallas Morning News*. His analytics team has ownership of the Alteryx environment and supports analytics for the organization as a whole. While the majority of analytics campaigns are executed for the marketing department, this analytics team also delivers audit reports to finance, various reports and analyses to sales, and more specialized analytics projects by department. For example, on one occasion the advertising department, looking to hone their targeting of ad spend, requested a comparison between potential customers and one or more of the third-party databases or other data sources.

Alteryx at *The Dallas Morning News*

Problem Scenario

Prior to the implementation of Alteryx, *The Dallas Morning News* relied on a legacy CRM tool that proved unsuitable for the kinds of tasks the analytics team was charged with. In support of the analytics requirements of the various departments, the team needed to get additional information out of that legacy system, but found that they were unable to do so.

Most projects took too long to complete while many could not be completed at all. The analytics team relied on manual processes for data collection, data cleansing, and data blending, all of which proved to be grossly inefficient. The team was spending up to 95% of its time preparing the data for analytics and as little as 5% of its time actually performing analytics.

The analytics team relied on a third-party consultant for the development and scoring of advanced and predictive analytics models. This outsourcing exercise was both costly and time-consuming, adding even more delays to an already inefficient process. To make matters more difficult, the models provided lacked the insider perspective that the analytics team would have been able to infuse into models developed in-house. The result was that these outsourced models added both to the expense and the inefficiency of the existing analytics process and often failed to fully deliver the insights that the particular analytics project was intended to address.

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Product Acquisition Story

The decision to acquire Alteryx began with a review of current processes and current tools; it was clear that both were inadequate and that a modified approach would be required. Alteryx emerged as a likely solution choice when the analytics team began exploring its capability and saw an immediate opportunity to realize tremendous efficiencies and cost savings with its adoption.

Alteryx provided *The Dallas Morning News* with two Alteryx Designer licenses for one month to allow for a proof of concept exercise to test out the proposed new processes as well as to prove out the solution's viability in the environment. With the support of the IT team, the analytics team was able to implement their first analytics project. This project was to collect, blend, and cleanse all required data and develop and score the predictive model that would drive the analysis—all in one day. In the existing environment, this kind of project initiation exercise would take up to two weeks.

Within a month of implementing Alteryx, *The Dallas Morning News* was doing a significant amount of this work in-house, substantially reducing their dependence on external vendors.

The analytics team found that cleansing and geocoding the data was much easier in Alteryx than in the legacy system. Web data in particular could be handled more quickly and with significantly less effort. Importantly, Alteryx provided the means to automate most of these processes, which, as noted above, had previously been manual.

Of equal importance was the inclusion of R support within the Alteryx solution to enable in-house model development and scoring. Within a month of implementing Alteryx, *The Dallas Morning News* was doing a significant amount of this work in-house, substantially reducing their dependence on external vendors.

The ability to set up new queries and new analyses on the fly and show results in real time was decisive for *The Dallas Morning News* analytics team. Over a short period of time, the team rebuilt all of their existing data collection, blending, and cleansing processes. The new automated processes quickly became a part of the mainstream daily analytics outflow of the analytics team.

Successes

Tangible Return on Investment

Rapid Development and Deployment

The most critical of the measurable benefits for *The Dallas Morning News* resulting from the Alteryx implementation is rapid development and deployment of new analytics projects. As noted above, when using the previous solution, the analytics team devoted approximately 95% of its time to data preparation activities—including data collection, blending, and cleansing—which left only 5% of their time for actual analytics work.

If you assume a five week analytics project with three full-time staff members working 40 hours per week, the overall level of effort is approximately 600 man-hours. Prior to the Alteryx implementation at *The Dallas Morning News*, the analytics team would spend approximately 570 man-hours on data blending and preparation and only 30 hours on analytical efforts.

With the automation of processes made possible by the Alteryx environment, the team is now able to devote as much as 50% more time, or 300 man-hours, to analytics tasks. This represents a 10x increase in the amount of analytics capability at *The Dallas Morning News*' disposal. In other words, using the previous system, *The Dallas Morning News* would have had to deploy a team 10 times as large as the current analytics team to achieve the same results.

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In fact, based on the observation of one analyst that the Alteryx solution can do in five minutes what used to take him or her five days, the estimate of a 10-fold performance gain may be on the low end. The Alteryx solution has not only enabled the analytics team to do more than it could before, both in terms of the scope and number of projects that the team is able to assume, it has also freed these resources to accomplish other tasks that are also vital to the organization's overall success.

Alternatively, *The Dallas Morning News* could choose to implement additional analytical projects. With the improved productivity, nearly two traditional projects could be accomplished with the same level of staff productivity. This provides *The Dallas Morning News* analytics team with the opportunity to make decisions to either increase their analytical workloads or increase the number of projects provided to business stakeholders.

Analytics In-House

While rapid development and deployment is largely a factor of the automation of tasks that the Alteryx solution provides, the new process of developing and scoring advanced and predictive models in-house also contributes significantly to the speed of deployment. As noted above, outsourcing the model development and scoring could add up to two weeks to the deployment process. With Alteryx, such delays are eliminated.

In addition to the time savings noted in the previous section, including gains in productivity from freeing up analytics staff to perform other core tasks, moving the deployment of R functions in-house provides a tremendous savings to *The Dallas Morning News* by virtue of the fact that the organization no longer has to pay an external vendor to perform this work. As explained by the analytics team in the course of the interview conducted by EMA, **this cost savings alone offset the cost of implementing Alteryx**. All of the financial benefits related to the freeing up of staff to perform other tasks are over and above this core cost savings.

Intangible Benefits

Analytics from the Insider Perspective

The availability of R functions within Alteryx for internal building of models has proved groundbreaking for *The Dallas Morning News*. The shift was an absolute one; the analyst team went from a pure outsourcing model to doing all of their scoring and model development themselves. As already noted, this has had a significant financial effect, but an even more important aspect of this shift may be the improvement in the quality of the models that are now being produced.

The analytics team has learned that the insider view has a profound effect on the utility of any model they develop. Thanks to their day-to-day experience and in-depth understanding of the organization's specific analytics requirements, the analytics team was able to develop new models which perform much better than those previously used. Because the analytics team can also now deploy new models without the delays inherent in the previous system, it is much easier to experiment than it was before. Analysts can try out multiple variations on a particular function or query and hone it to a much higher-performing level in less time than it used to take to get the first iteration. As a result, *The Dallas Morning News* benefits not only from better and faster results, but from a culture of exploration and discovery that the previous system simply could not support.

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A Strategic Focus

As noted above, the previous processes for data collection, cleansing, and blending were grossly inefficient. With the new automated processes enabled by Alteryx, the analytics team can easily cleanse, geocode, and parse data—plus perform fuzzy matching and other highly sophisticated tasks—much more quickly and easily than was possible when writing SQL code. Using the old system, it was a struggle for analysts to deliver even the most basic projects or sets of analytics, leaving very little time for more strategic work.

With the introduction of the Alteryx system, that problem has been eliminated. No longer constrained by complex and time-consuming manual processes, the analysts can use analytics to focus on the more pressing challenges that the organization faces. As with the emphasis on exploration and discovery noted above, this amounts to a critical change in culture.

Return on Investment Summary

Tangible Return on Investment			
	Before	After	Improvement Factor
Number of data prep projects supported*	4	7.6	Nearly 2x
Resource availability for analytics, post-data prep	5%	50%	10x

* Over a period of 20 weeks, assuming 5-week average project term

EMA Perspective

In essence, *The Dallas Morning News* is in the information business. Long gone are the days when a newspaper could be viewed primarily as a print entity with an online infrastructure serving as an appendage to the core business. Today's newspaper is as dependent on a robust IT and data management infrastructure as any technology business. Over the past decade, accompanied by a mass migration of editorial professionals from the print to the online world, the core revenue engine of the newspaper industry, print advertising, has fallen by more than 50%.¹ To survive, much less to achieve any measure of growth in an industry experiencing that level of transition, requires players in that industry to consider major, disruptive changes to their business model. By adopting a strategy that calls for massive diversification of its core business and a shift to continuous innovation to drive and sustain growth,² *The Dallas Morning News* is implementing exactly those kinds of changes.

Beyond the immediate financial impact of implementing a new analytics solution leveraging Alteryx technology, *The Dallas Morning News* has taken a major step towards providing the kind of infrastructure required to enable deep and sweeping changes. It is probably for that reason that the new solution was accepted so readily across the board, avoiding significant delays related to campaigning and negotiating a new solution that often follow a major proof-of-concept within a large organization.

Via this solution, the analytics team now manages an intuitive workflow for data blending and advanced analytics to provide rapid, organization-wide access to business insights without the delays and limitations associated with the previous system. The seven members of the analytics team can easily share their analytics applications with the more than 50 business decision-makers who rely on analytics in order to do their jobs. Essentially, the new environment makes analytics available to anyone in the organization who needs it.

Additionally, the analytics team can now provide these business users with control of their own analytic apps, including the ability to customize the output to their specific needs. With Alteryx, *The Dallas Morning News* analytics team can gather data from different sources, build and publish analytic models, and deliver analytics into the hands of business decision-makers much more rapidly and flexibly than before, supporting both the culture of innovation and the flexibility that diversification of business models will necessarily entail. The new Alteryx-based environment demonstrates its business value primarily through its support of this major transformation of the organization itself.

Customer Quotes

“They just did in five minutes what takes me five days.”
– Member of *The Dallas Morning News* Analytics Team

“Alteryx paid for itself and put money back in our pockets. Other solutions were significantly more expensive.”
– Member of *The Dallas Morning News* Analytics Team

¹ Mitchell, Amy, “5 facts about the news business today,” PewResearch.org, March 26, 2014, <http://www.pewresearch.org/fact-tank/2014/03/26/5-facts-about-the-news-business-today>

² Moroney, Jim, “Revenue Diversification at The Dallas Morning News: Roundtable 2014,” Leap Media Solutions, August 23, 2014, <http://www.slideshare.net/astechtr/revenue-diversification-at-the-dallas-morning-news-roundtable-2014-jim-moroney>

About EMA

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals and IT vendors at www.enterprisemanagement.com or blogs.enterprisemanagement.com. You can also follow EMA on [Twitter](#), [Facebook](#) or [LinkedIn](#). 3139.042415