STATE OF THE INDUSTRY

DATA ANALYTICS AND TECHNOLOGY

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Data Analytics 101 – Monitoring KPIs with Confidence and Clarity

Companies of all sizes and complexities are experiencing the challenge and uncertainty surrounding advancements in technology. Keeping pace with new technologies and understanding their corresponding impact seems to be a full-time job in and of itself.

Defining the purpose and benefit provides decision makers with clarity when deciding whether to implement a new technology or not. For a variety of reasons, we are seeing companies regularly implement technologies such as robotic process automation (RPA), data analytics and visualization (dashboarding), data warehousing, artificial intelligence, machine learning, and digital transformation, among many others.

Although the shiny new buzzwords seem to be appearing daily, their purpose remains the same in trying to help companies run their business in the most efficient and effective way. In this article, we will focus on the impacts and benefits of data analytics, define some guiding principles for getting started with implementing data analytics, and review a real-life use case for how these tools and techniques have been successfully implemented.

Foundational Success

Data analytics can be defined as the discovery, interpretation, and communication of meaningful patterns in data, and the process of applying those patterns towards effective decision-making. In plainer terms, understanding your data and doing something with that knowledge.

Sounds simple right? Conceptually, it is.

Applying an analytically driven decision-making process for any company requires commitment,

patience, and creativity. A few questions to consider while establishing a path toward data analytics implementation:

- What key performance indicators (KPIs) or metrics are we currently utilizing on which to base our decisions;
- How are we tracking and evaluating these inputs to ensure data is accurate and reliable at the source;
- Are we focusing on the most relevant and impactful KPIs for the company?

There are a variety of different operational applications for implementing data analytics in the trucking industry, such as compliance objectives, safety metrics, driver retention initiatives, route efficiency, cost visibility, and profitability to name a few.

Additionally, easing internal administrative burdens such us untimely or labor-intensive reporting, human capital resource constraints, or lack of visibility into disaggregated systems are reasons to implement. Although there is variety in why we want data analytics, the constant contributing factors in a successful implementation are timely, accurate and reliable data.

For a company to utilize data to its fullest potential, processes need to be established to facilitate and produce a reliable, data-ready environment. Going through a Digital Transformation process, designed to properly align people, process and technology is critical to understanding your company's current technological landscape and how to better position it to help achieve your strategic goals. Layering technology over broken or outdated processes can cause more harm then good, and a successful data analytics platform (or any other technology for that matter) requires a strong foundation to be reliable and scalable.

Gaining Insights

From this point forward, a variety of technologies come into the picture as possible solutions to carry out your data analytic goals and objectives. To optimize implementation of new data analytics initiatives, many companies are turning to Corporate Performance Management (CPM) software. Many CPM software applications contain data warehousing, reporting, planning and dashboarding capabilities, all contained within a single piece of software. CPM solutions integrate directly with your existing systems, providing the ability for your systems to talk to one another, while providing a timely, accurate and reliable flow of data to leverage for your analytical and reporting needs. These solutions deliver immediate value, while also providing the foundation for future benefits and integration with other software.

A common combination of software we use to carry out successful data analytics strategy is a CPM solution plus a data visualization software. Seamlessly integrated, the data visualization solution provides users the ability to visualize and analyze their data in ways that enable them

to gain insight into their company, understand their data, make business decisions, or monitor KPIs. Often times, the dashboards act as the 'deliverable' that end users work with most frequently, with the aforementioned technologies simply working behind the scenes to make the dashboards operate effectively and come to life. As described below, how we use the combination of these solutions is powerful and can have profound impact on how a business is run.

Taking Action

Hopefully, defining the various components of a successful data analytics strategy is helpful in clarifying why it's beneficial and how the technology works, but what about its impact? Real-life use cases offer a glimpse into how applying these concepts can produce tangible value.

For a company whose goal was to monitor the profitability and productivity of the various routes on a timelier and more accurate basis, our ADAPT team implemented a CPM solution and data visualization software stack to enhance their reporting, monitoring, and data visualization capabilities. Prior to our engagement, the data being analyzed was deemed outdated and unreliable. This data came from four different systems, including the (1) payroll system, (2) routes and collections, (3) scheduling and (4) general ledger accounting system.

To execute, the final outcome was considered, i.e., what information did management want, how often did they want it and in what format? We then identified the sources of the data required to meet these analytic needs and designed a set of robust controls to ensure the data was extracted, transformed, and loaded

into the warehouse without impairing its integrity. In addition to the traditional reports produced using data from the data warehouse and the reporting tool, we implemented a series of interactive dashboards integrated with the data warehouse for quicker access and visibility into the company's significant volume of data.

This solution allows management to monitor the productivity and profitability of all routes, as well as monitor each individual driver and department, all within a single platform. With the custom calendar view, management was able to determine what days are the most productive and profitable in terms of fuel consumed, average time needed to complete a route, number of containers picked up and number of trips required to empty the load. In addition to the monitoring features, management also desired a "what if" analysis feature that helps better forecast and understand their cost structure. To facilitate this feature, we implemented a series of parameters which allows management to change key cost inputs, ultimately helping to identify the largest factors in profitability of each route.

This platform has provided management access to their own data they couldn't achieve before, which has provided value to them through their ability to monitor their key performance indicators and take timely corrective action when their results fell outside of expectations or normal trends. Additionally, the system integrations and automated refreshes associated with updating the dashboards also relieved key personnel the administrative burden and time spent compiling these analytics manually or moving data from one system to the next using spreadsheets.

To learn more about Schneider Downs ADAPT solutions please visit www.schneiderdowns.com/adapt.

In Closing

Companies of all sizes and complexities have an opportunity to gain value from implementing data analytics or other emerging technologies. Whether you capture and store data in an Excel spreadsheet, an ERP system, or utilize a CPM + Data Visualization stack, data analytics have an important role to play in your operations now and in the future. Setting a proper foundation to build off provides the opportunity for data-driven decision making in an efficient, reliable, and scalable manner. Perceived complexities surrounding new and emerging technologies should not preclude you from getting started – remember, it's simple at its core!

Start small by evaluating historical data using visualization tools to begin establishing trends, historical norms, and ways to monitor or identifying abnormalities. Using a collaborative and iterative approach, strategically find ways to fully realize the potential of your data: What data do you have? What does it mean today? What can it mean moving forward? Together, we can implement strategies to put that data to work in new, beneficial, and efficient ways. Integrating data analytics into preexisting processes is a shift in mindset but producing and sharing the actionable insights derived from your data will help those around you adapt to change and ask for more.

Ohio Trucking Association

The Ohio Trucking Association is a 100-year-old full-service trade association operating in Columbus, Ohio. With over 815 total members in the trucking, logistics, warehousing and moving industries, our promise to our members is simple: the Ohio Trucking Association will work to improve operational efficiency, profitability and relevancy for all of Ohio's transportation industry. Advocacy, professional development, networking and cost savings initiatives are the keys to carrying out this promise to our members. No matter what the cause, our industry is stronger when operating as one. We encourage you to explore more about becoming involved with the Ohio Trucking Association at **www.joinota.com**.

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Schneider Downs Transportation and Logistics Industry Group

Established in 1956, Schneider Downs has grown to be one of the largest independent public accounting and advisory firms in Columbus, Ohio; Western Pennsylvania and Washington D.C., with nearly 500 personnel in total, including 52 shareholders and partners.

More than 25 years ago, we established the Schneider Downs Transportation and Logistics Industry Group. The group includes assurance, tax, technology and management consulting professionals who combine their individual expertise to serve our wide range of transportation and logistics clients—from local carriers to national enterprises, including: trucking, general freight, flatbed and box, TL, LTL, tank waste brokerage, bulk commodity dump, 3PL, heavy hauling/permitted loads, moving and warehousing. The Transportation and Logistics Industry Group meets on a regular basis to review and analyze issues central to this industry. As a result, our transportation and logistics professionals possess the most current knowledge of transportation issues, regulations and trends. We work with you to seek innovative ways to reach your strategic goals.

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