



## Erasing the Bias:

How Zebra Prescriptive Analytics™ is Reversing  
Thirty Years of Misinformation



Zebra  
**Prescriptive Analytics™**  
Powered by Zebra Savanna™

## Erasing the Bias:

### How Zebra Prescriptive Analytics is reversing thirty years of misinformation

With a reputation of lies and under-delivered expectations, purchasing an analytics solution is comparable to purchasing a second hand car. Although there is a stigma that used car salesmen are often misleading, people regularly purchase used cars, taking into account the potential risk. In comparison, buyers are continually let down by their analytics solution, but it is a risk that companies are willing to accept on the off chance that the solution does what is promised. Although routine disappointment establishes a cynical attitude towards prescriptive analytics and its promises, the benefits often far outweigh the risks. Below, John Deane, former CIO of such companies as ascena retail group, Abercrombie & Fitch, Wendy's International and CaremarkRX, cites the major constraints in different analytics solutions, how to combat them, and how Zebra Prescriptive Analytics™ is working to reduce the bias of traditional analytics solutions.

#### 30 years of lies - John Deane

Over the past 30 years, I repeatedly encountered the same idea when it comes to the implementation of an IT project: vendors always underestimate the amount of time it takes to get up and running and we, the customer, just accept that part as the cost of doing business. Retailers shouldn't sit by and lose money by accepting the failed promises of analytics providers anymore. The lies often deal with implementation time, the effectiveness of the information produced, and ease of use of a solution that drives adoption.



#### Implementation time + actionable findings = opportunity cost

The opportunity cost in choosing an analytics provider is the money lost by using a solution with a longer implementation time. For example, Solution A has an implementation time of 6 months, and after that an inefficiency is found and corrected, saving the buyer \$1,000 per week. If Solution B is implemented in 3 weeks, and finds the same inefficiency, the opportunity cost by choosing Solution A is \$21,000—the money lost by the customer while Solution A is being implemented. This means the time it takes to implement a solution has a tangible cost to it. Not just the financial cost of the vendor, but the opportunity cost of not finding actionable opportunities early. Often, the slower the implementation the higher the opportunity cost.

The promise is that the outputs—often in the form of reports—will generate value, but that is not the case. These reports require additional time confirming their accuracy, finding the insights and deciding on the appropriate action.

“Meaning that after all the time and money spent implementing a solution, the passive nature of the reports delivered by most vendors leaves traditional business intelligence tools underutilized and undervalued.”

“The promise is that the outputs—often in the form of reports—will generate value, but that is not the case.”

Finally, someone has to take action to ensure value is realized. Additionally, most analytics solutions deliver their reports through email, making it difficult to determine if they were ever read, interpreted or acted upon. Meaning that after all the time and money spent implementing a solution, the passive nature of the reports delivered by most vendors leaves traditional business intelligence tools underutilized and undervalued.

Another pitfall to traditional analytics is that it requires dedicated analysts who are trained, understand the data & the business, and are responsible for generating all of the outputs. This limits productivity because you are dependent upon a select few for every new request. Furthermore, analysts are not always business minded, and may not be able to address the request in an appropriate way that generates the value expected.

### Updating to the newest technology

The latest form of analytics, known as prescriptive analytics (PA), has changed the nature of business intelligence. PA has taken the passive report and created actionable insights—including a description of information, a judgement, a root cause, a consequent best practice to optimize the outcome, and the ability to pass on an assignment to a specific agent, all in the same product. However, this has also increased the opportunity cost behind slow implementation. Since actions are generated at a much faster and more accurate rate with PA, the longer it takes to get a system up and running, the more money you may be losing.

That is why one of the key things to look for when shopping for an analytics program is the opportunity cost of implementation, which is often not factored into the decision-making process, and should include every other possible event that could affect a timely implementation. Additionally, a long implementation can begin to cloud an organization's original intentions. The longer it takes to begin using a solution, the greater the risk that objectives can be lost, which increases the probability of a failed solution.

In addition to quick implementation, using a solution that can analyze a wide variety of data is necessary for success. In addition to losses, you need to find an analytics solution that also aims to minimize other profit leaks. Minimizing profit leaks means finding inefficiencies in day-to-day operations that could amount to losses, in both profit and margin. For example, poor cashier training can be a root cause of profit leaks in the final stage of a sale, while inadequate inventory management can cause lost sales if a product is not displayed on the shelves correctly. In these instances, the inefficiencies can be reversed fairly quickly—by retraining employees. Analyzing unconventional data from a wide variety of sources can uncover inefficiencies and correct them, minimizing profit leaks.

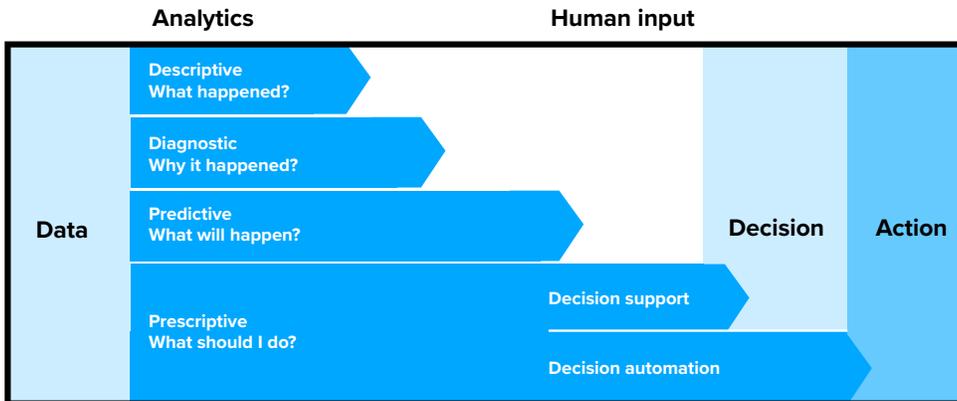
Since its development, data analytics has had a reputation for being a slow process. Analysts themselves, as well as their available tools, can be to blame for this. Data analysts in general may be slow to adopt new technology out of fear that it may not be successful, or simply because they want to continue to work with what they are comfortable with. Also, because most solutions are dependent upon an analyst to collect the data, when they take a vacation often so does progress. Additionally, using new technology can often become costly because it requires new installation and sometimes new equipment. In its infancy, data had to be gathered and analyzed by hand. Once reports were generated, they were sent out to managers, who had to analyze them once again in order to learn anything from them.

“Analyzing unconventional data from a wide variety of sources can uncover inefficiencies and correct them, minimizing profit leaks.”

“...one of the key things to look for when shopping for an analytics program is the opportunity cost of implementation...”

## Evolution of analytics

The first type of analytics used in retail was descriptive analytics. They were “manually performed” and included “visualizations such as pie charts, line graphs, tables, or generated narratives” (Gartner Online IT Glossary). This primary method of analytics was largely unsuccessful due to the time it took to perform, not to mention the additional analysis required on behalf of the store managers. Reports simply stated what happened in the past, but gave no indication as to why it happened or what to do about it. Any time the business side needed to see more data, IT had to spend significant amount of time (\$) to provide the additional data.



Source: Gartner

From descriptive analytics, diagnostic analytics was born. According to the Gartner IT Glossary, diagnostic analytics is described as “a form of advanced analytics which examines data or content to answer the question “Why did it happen?”, and is characterized by techniques such as drill-down, data discovery, data mining and correlations. Diagnostic analytics paved the way for both predictive and prescriptive analytics—looking into why an event occurred is the beginning of solving the problem and correcting it, preventing it from happening again (How to Get Started with Prescriptive Analytics).

Predictive analytics, a step behind prescriptive and what many companies still implement today, is defined as any form of data mining that contains four components: emphasis on making predictions, rapid analysis, and a focus on business relevance of results and on ease of use (Gartner IT Glossary). The difference here [between predictive and prescriptive] is that users are looking for a product that gives them the necessary information, and that the information is easy to find. These are “Smart machine for Smart people”.

Prescriptive analytics takes predictive one step further. Categorized by the Gartner IT Glossary as a form of analytics that answers the questions “what can we do to make it happen?” and “what should be done next?” Prescriptive analytics is the most efficient and most well-equipped analytics division available today. The difference between predictive and prescriptive is how the end user is notified. With predictive analytics, the user is given a report that identifies what might happen if current trends are to continue. Prescriptive analytics searches the data for opportunities to improve, and gives direction to the end user to act on these opportunities and generate the best optimized success.

“Prescriptive analytics searches the data for opportunities to improve, and gives direction to the end user to act on these opportunities and generate the best optimized success.

“Zebra Prescriptive Analytics aims to reverse this bias by providing a powerful analytics tool that encompasses all aspects necessary for success.”

Large quantities of available data combined with a decrease in the cost of technology “has given enterprises the opportunity to greatly improve their operational effectiveness and efficiency” while simultaneously generating a need for “decision management to help them deal with the volume of data and the complexity of computation” in their day-to-day operations (Finding the Best Approach to Decision Management). The convergence of both the opportunity to optimize available technology and the need for it has given life to prescriptive analytics by creating a market for such a solution as well as the platform to execute it.

Joao Tapadinhas from Gartner states that “even if it comes at the expense of slower deployment, data and analytics leaders must embrace all aspects of the implementation challenge - including platform capabilities, integration touchpoints, governance model, roles & processes...” (How to Implement a Modern BI and Analytics Platform). This implies that in order to be a successful prescriptive analytics tool, one must have a slow implementation process. Zebra Prescriptive Analytics aims to reverse this bias by providing a powerful analytics tool that encompasses all aspects necessary for success, and delivering on these promises much more quickly than competitors. For example, a popular shoe retailer implemented Zebra Prescriptive Analytics, and “all 450 locations [with] about 18 months’ worth of data, [was] live in the system in about three days.”

### Why is outsourcing the most economical idea?

When it comes to implementing a data analytics program in your business, there are three options: build, buy or outsource. Building your own program is pretty self-explanatory—it requires extensive research into your own company to determine what you look to get out of the solution, and then what steps to take to achieve this goal. Once the goal is set, developers must build the solution, thus making it time consuming and expensive. With building a homegrown, in-house team, time and resources are the biggest factor. These programs often take time to build, and require a team of analysts and IT experts, project managers, designers, product managers, etc. The benefit of building your own tool is that it is specially crafted to fit your company needs, and can be adjusted as necessary. Since homegrown tools often require a large time and money, it is important to demonstrate the value of their existence, and receive organizational buy-in, proving the long-term investment in prescriptive analytics. A negative of homegrown solutions can be the lengthy trial and error period. Since the methods are tailored to your needs, it is more difficult to resolve problems because there isn’t a “role model” to base decisions off.

Buying a prebuilt program can be beneficial, if your problem is stereotypical of other retail companies, and you operate in a similar fashion. These “off the shelf” solutions are usually the least expensive because there is limited personalization involved. This limitation could inhibit your company from getting the most value out of the product. If applications exist that are made to solve your problem, “they are often good enough,” and can provide generic solutions and tips to recover profits. (How To Get Started With Prescriptive Analytics, Gartner 2015).

Outsourcing to a prescriptive analytics provider, such as Zebra Prescriptive Analytics, is the most economical decision because of the reasonable cost and potential value of a personalized analytics solution being delivered quickly with configurability towards your needs. Although more expensive than a prepackaged application, a provider can configure the services you receive to fit your needs, and train users to get the most out of what they are given, thus dramatically increasing the value to its user. In addition, you can trust that your data is in the hands of competent analysts, and you do not need to invest your time and effort into building a data warehouse and algorithms from scratch.

“With building a homegrown, in-house team, time and resources are the biggest factor.”



## Quick implementation

It has been commonplace in the data analytics market to have implementation times of weeks, months, sometimes years! Zebra Prescriptive Analytics prides themselves on being able to have a much quicker timeline - sometimes as quickly as three days. A representative from a popular national grocery chain notes that “the implementation time for Zebra Prescriptive Analytics is unbelievably quick in comparison to what else is out there in the industry, from time of decision to having the tool with store managers was a couple of weeks.”

In “Magic Quadrant for BI and Analytics,” Gartner analysts discuss the importance of fourteen critical capabilities for the success of a prescriptive analytics platform. These capabilities include: BI Platform Administration, Cloud BI, Security and User Administration, and Data Source Connectivity, just to name a few.

Analysts highlight the need to sacrifice deployment time in order to achieve all these points. But enterprises fail to realize that a long implementation phase means increased losses. The ultimate goal of any prescriptive analytics platform is to save users money—through objects recovering profits or minimizing losses. Say, as an example, a company is unknowingly losing \$10,000 a week in a process that would be easily discovered and corrected once an analytic- tool was put into place. If the tool takes six months to successfully start analyzing, that is \$260,000 in lost profits. If the same company, with the same unknown weekly losses, started using Zebra Prescriptive Analytics, they would generate 87% more, or \$230,000 in profits (assuming a three-week implementation) because analysis and opportunities would be generated more quickly, meaning the problem could be discovered and resolved in a fraction of the time.

## Customer-centric vs. IT-centric

In How to Modernize your Business Intelligence and Analytics (BI&A) Platform for Agility Without Chaos, Gartner analysts discuss the necessities for deriving value from a prescriptive analytics tool. “To drive value, the modern BI&A platform must not only leverage a diverse array of data sources and expand access to a range of users across the enterprise, but also assure adequate governance of self service content.” This means that a successful BI&A tool will give users the opportunity to find solutions from a wide variety of data, and draw from other users’ knowledge, all through the convenience of one platform.

The shift away from IT-centric solutions comes from an increase in data available, but was also influenced by a shift to omnichannel commerce and IoT gages, at least in the retail world.

Being able to pull data from not only a cash register, but also from inventory records as well as returns information, traffic, refrigerator temperature and more helped businesses create a larger picture of what their day-to-day business was like.

“Outsourcing to a prescriptive analytics provider, such as Zebra Prescriptive Analytics, is the most economical decision because of the reasonable cost and potential value of a personalized analytic solution being delivered quickly with configurability towards your needs.”



The added benefit of self-service content became vital because it allowed users to record their discoveries and how they solved problems. This collaboration shifted the need from IT-centric & analyst-centric solutions to customer-centric ones. Businesses now rely on being able to solve problems without having to fund a team of IT specialists. A customer-centric solution supports a “full range of analytics workflow,” spreading the value of the solution across departments.

Lastly, a customer-centric tool shifts the responsibility to individual employees—creating accountability, establishing pride in one’s work, and trust between an employee and an employer. In addition, the ability to draw from other user’s experiences—through Zebra Prescriptive Analytics’ comment feature, for example—allows employees to see what worked for others and implement different techniques. This also creates an opportunity for improvement in the product itself. Although Zebra Prescriptive Analytics is equipped with a large pattern bank, we can draw from user’s input to add to the bank, making it an adaptable tool.

### Allowing time to grow

Some believe that a slow integration is a stepping stone necessary to achieve maximum impact, allowing for holistic integration and achievement of a broader scope. Holistic integration of a prescriptive analytics solution allows it to fully engage in daily processes of an organization, and the organization can benefit from everything the product offers. By choosing a solution that involves itself into every aspect of a business process, you are able to achieve maximum impact and ensure nothing goes unnoticed.

That being said, this holistic integration does not have to take extensive amount of time. Zebra Prescriptive Analytics’ customer success team works efficiently to integrate data in a timely fashion, saving your business more money, more quickly. In addition, Zebra Prescriptive Analytics’ ability to integrate multiple data sources means that less time is spent converting data to a standardized form. Using this Minimum Viable Product (MVP) approach, one could start and evolve quickly.

Holistic integration also means being able to achieve more in more areas of business. By implementing a prescriptive analytics solution that can be applied across multiple platforms and organizations, the opportunity to find inefficiencies is greater. Zebra Prescriptive Analytics embraces holistic integration by bringing in data from multiple sources—such as POS, inventory data, and marketing data.

### Common problems in modern BI

In most modern business intelligence initiatives, a lack of integration presents a problem with most businesses. Problems with integration include “not implementing a user-built content validation process, keeping strict limitations on data access, and deploying the platform as a parallel tool to traditional BI, without enough touchpoints between them” (How to Implement a Modern BI).

Zebra Prescriptive Analytics counteracts these problems by using a system that allows for a wide variety of data, including structured and unstructured, to be ingested and utilized to improve performance. User suggested content in the form of comments can be used to gauge the success of best practices, and the ability to “like” the comment leverages crowdsourcing to reinforce the success. Adding unstructured data and applying sentiment

“If the same company, with the same unknown weekly losses, started using Zebra Prescriptive Analytics, they would generate 87% more, or \$230,000 in profits.”

“Zebra Prescriptive Analytics embraces holistic integration by bringing in data from multiple sources - such as POS, inventory data, and marketing data.”

“A customer centric tool shifts the responsibility to individual employees - creating accountability, establishing pride in one’s work, and trust between an employee and an employer.”

analysis alongside other data points improves the overall picture of the performance. The ability to take in a wide variety of data also creates flexibility within an organization because they can use data that they already have without having to convert it. Further, Zebra Prescriptive Analytics prefers raw data because it allows for the most analysis, and thus the greatest chance for an opportunity to be found. Since Zebra Prescriptive Analytics' solution can be integrated using numerous data sources, it has the ability to weave its way into existing products, thus creating an innumerable amount of touchpoints.

In addition to being able to correct these problems, a successful modern business intelligence is able to “leverage wide array of data sources, expand access to a wide array of users, and assure adequate governance of self-service content,” (How to Implement a Modern BI). all of which Zebra Prescriptive Analytics does successfully.

### Autonomy focused model & machine learning

In the grand scheme of things, the purpose of prescriptive analytics is to save a company money while generating increased revenue and make their processes more efficient & effective at the same time. This purpose is negated if the solution provided requires endless resources to support it. Zebra Prescriptive Analytics eliminates this by using machine learning algorithms that focus on autonomy and self-sufficiency. The system regularly learns as time progresses, becoming more and more efficient. Gartner highlights the importance of machine learning as a top 10 strategic technology trend, emphasizing that machines have “evolved to extract greater meaning from a rapidly expanding set of sources” (Top 10 Strategic Technology Trends of 2016: At A Glance). To succeed in advanced analytics, a solution must be “programmed to learn and adapt, rather than programmed only for a finite set of prescribed actions.”

In the same paper, Gartner cautions users that autonomous agents are “a long-term phenomenon that will continually evolve and expand their uses for the next 20 years.” This statement again emphasizes the idea of evolution. Technology is continually evolving, and solutions and tools must adapt as well in order to achieve maximum value. The added benefit of a machine learning tool is that this adaptation is done for you, and is not another item that the user has to be concerned about. Michael Lewis, the author of Moneyball, sums up the benefits of autonomous solutions, “People... operate with beliefs and biases. To the extent you can eliminate both and replace them with data, you gain a clear advantage.”

### Lack of training negates benefits

Benefits often become negligible if the end user cannot execute them properly. For example, consumers may be compelled to buy the latest version of a smartphone, strictly because of the new features it boasts. However, it is likely that although it has new features, you are probably not going to utilize the phone any differently than you use your older model. To parallel this with prescriptive analytics solutions, in order to optimize a new solution with new features (in comparison to an older, predictive solution), you must take the time to learn how each feature works and how it benefits you and your company. Once this is fully understood, you have the ability to receive the full value of the solution.

To counteract this possibility, Zebra Prescriptive Analytics provides its users with unlimited onsite training & coaching to ensure their users are getting the most out of our product. In addition to initial training, members of their customer success team are available to handle problems and questions as you come across them.

“Zebra Prescriptive Analytics counteracts these problems by using a system that allows for a wide variety of data, including structured and unstructured, to be ingested and utilized to improve performance.”

“The purpose of prescriptive analytics is to save a company money while generating increased revenue and make their processes more efficient & effective at the same time.”

Zebra Prescriptive Analytics' group of passionate problem solvers has access to unlimited resources when it comes to training / coaching their users to use the service achieving maximum value. In addition to initial implementation, users have access to their assigned customer success partner throughout their use of the solution. This access also provides peace of mind because no matter what questions you have, someone will be there to answer them that knows and understands how you operate your business. To ensure everything is run smoothly, Zebra Prescriptive Analytics' customer success team also initiates frequent contact with our users, including establishing user to user connections and executive steering committees. These user to user connections are beneficial because they provide insight from a customer perspective, providing a community to share methodology and ideas.

### How using multiple data sources is the key to success

In order to understand the entire picture of what goes on day-to-day, you need to be able to access data from numerous different locations at a detailed level. For example, POS data can reveal that sales of an item have dropped significantly, and from this one can infer that the item is not in demand. This conclusion might lead a store to reduce the items allocation because of the declining demand. But, from an inventory perspective, the item might be out of stock, even if the perpetual system "believes" it is on hand—thus causing the declining sales. The integration of these two perspectives paint the full picture of what is really going on, and the appropriate personnel can take the correct action when a "smart system" tells them about it in plain language (PA).

In conclusion, the success of a prescriptive analytics solution, or any analytics product, is dependent on its ability to adapt to change and its adoption from as many users as possible. In the past, solutions failed because they over promised—ensuring customers that they will be able to analyze lots of data and get immediate results, and under delivered. Zebra Prescriptive Analytics is pioneering a rebranding to analytics solutions. Rather than slow implementation and below average results, Zebra Prescriptive Analytics is paving the way to the future with fast implementation, easy to use features, and large opportunities for success in your organization. As Steve Jobs said: "Simple can be harder than complex".

Source: Zebra Prescriptive Analytics

"The integration of these two perspectives paint the full picture of what is really going on, and the appropriate personnel can take the correct action."

"Zebra Prescriptive Analytics is paving the way to the future with fast implementation, easy-to-use features, and large opportunities for success in your organization."

Act on your retail data. Visit [zebra.com/prescriptiveanalytics](https://zebra.com/prescriptiveanalytics)



**NA and Corporate Headquarters**  
+1 800 423 0442  
inquiry4@zebra.com

**Asia-Pacific Headquarters**  
+65 6858 0722  
contact.apac@zebra.com

**EMEA Headquarters**  
zebra.com/locations  
contact.emea@zebra.com

**Latin America Headquarters**  
+1 866 230 9494  
la.contactme@zebra.com