Reporting, Analytics, Business Intelligence and Artificial Intelligence

Reporting, analytics and business intelligence go across every process in fashion design and selling, as well as over all time periods. When it comes to the data powering these activities, the adage "garbage in, garbage out" applies—the information must be "clean" to be useful.

In looking at all elements that make up collective activities (both cyclical and non-cyclical), companies need to report on every activity on a functional/ transactional level, as well as a holistic level and perhaps over time (example: comparing days to one another). However, the data is housed in different solutions, from ERP to Excel spreadsheets and Point of Sale, often with little to no integration. How can a company report from all things across the business? For example, how can a company see how long it takes to go from designing a product to having it on the shelves, and where can it shorten that cycle? If it is using multiple systems plus a production company, a customs broker, a shipping company and a wholesaler for end product sale, it can't really know.

Certain technologies to integrate data, such as reporting engines or data warehouses, can work across multiple systems to generate information, based on these siloed data sets. However, these technologies can't account for data that is entered incorrectly or varies from master data information, such as the color description (blue, dark blue, indigo, etc.). Therefore, getting holistic data across these platforms, becomes a new challenge. This is because there is no easy way to normalize data. More data doesn't necessary mean better insight, when the information is fragmented, inconsistent or incomplete.

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Data warehouses house data that has been collected from various sources, ranging from internal systems to social media and beyond. Using data warehouses, companies can normalize data to create historical reports, spot trends and view information over time. Companies are not just looking at data for a point in time, but over time and across different scenarios for better information. That data then can be fed into an analytics engine, further slicing and dicing the data with different views and takes. This allows it to further spot trends, make predictions and suggest actions to take. However, the same issue applies: garbage in, garbage out.

Artificial intelligence can take the data from analytics engines, data warehouses or other unstructured data points, such as social media. It can look for repeatable patterns and determine the impacts of positive or negative actions, and even make recommendations for the company or the customer. Sometimes the outcome is good, such as the system suggesting a particular belt to go with a pair of pants or a purse. However, there are certain instances, in which the algorithm powering the artificial intelligence is incorrect. An online shopping site could continually suggest jeans and casual shirts to someone who regularly buys business clothing. This type of error could even cause a company to lose customers.

As a related example, one of my music streaming apps plays commercials in Spanish. However, I don't speak Spanish well. This means that I am deriving no value from the commercials. It's a waste for the companies, whose commercials I'm hearing. Although it was amusing at first, it is now just annoying. If the music streaming service is using AI, it's not being done well. If they aren't using AI, maybe they should be. I suppose I could just stop being cheap and get the paid subscription to eliminate the commercials. This would fix my problem, but not theirs. What I do instead, is use another service—and the music streaming service has lost a revenue opportunity. However, I still have a mildly humorous story to tell. Business intelligence is now primarily about collecting and providing data to help companies work smarter.

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However, machine learning can put the data into action, by analyzing the data to determine whether certain thresholds or conditions have been met—such as the temperature dropping below 45 degrees—and then recommending that a retailer buy more jackets. The system could also simply take the action and order the jackets, based on historical data and past user actions. However, this scenario requires that the data is clean. Unfortunately much of the data in the current systems in the fashion space is too fragmented and unclean to achieve positive repeatable outcomes. It is coming, however.

If any data in current systems need complete oversight, it is master data. Companies must have normalized data at the core. Without it, their analytics or reporting data will be greatly compromised. Disparities in color nomenclature, product descriptions or SKU numbers undermine the analytics. Data not input in the same way across platforms is bad data. It won't provide the sums in reporting and analytics tools, but without good master data, the outcomes will be inadequate.