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BEST PRACTICES FOR INDUSTRY MEADERS

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Key Performance Indicators less is often more when it comes to collecting and analyzing data in a way that is best for your operation.

Information overload is more prevalent than ever in today's manufacturing industry. According to Adrian Ott in her book, "The 24-Hour Customer," people see more than 34 billion pieces of information (the equivalent of two books) every day. And, with the wide adoption of mobile devices such as tablets and smartphones, executives and other decision-makers involved in managing the supply chain can drown in emails, work-related conversations and numerous key performance indicators (KPIs). The good news is: there are solutions. Newer approaches to managing information, such as shallow-dive analytics, indirect KPIs and real-time KPIs can help companies manage the fire hose of information and bring more insight to business decisions. These new approaches do not reduce the amount of information. Rather, they focus business teams on providing the right insights for optimal decision-making.

When Analytics Lead to Analysis Paralysis

Big data and analytics are at the top of the corporate agenda, especially for manufacturers. Big data can transform the way companies do business and is being used in a wide variety of applications across supply chain and manufacturing operations. In a perfect world, the end results of data-driven strategies are KPIs that drive corporate success. Yet as organizations leverage data to establish priorities and improve business performance, they fuel a quest for more knowledge and more data, which can lead to information overload and subsequent paralysis by analysis. When this occurs, organizations attempt to deal with more information than they can process, resulting in delays in decisions, incorrect decisions or a lack of ability to make decisions.

Manufacturers can obtain critical business information from multiple points within their supply chain in addition to accessing data from other sources. From the customer side, metrics such as quality assessments, rejects, on-time shipments and satisfaction all offer numerous data points. Marketers can analyze web traffic, client profiles and preferences, and the effects of marketing campaigns. Those involved with manufacturing can assess performance metrics by monitoring real-time production on manufacturing lines. Similarly, the transportation division can use truck-mounted GPS devices to monitor locations of goods and track timing of transport. Organizations can also review defects as well as the causes of defects and trace

presentation decks and other streams of information, stakeholders are burdened with layers upon layers of facts and opinions. Although many businesses are adept in collecting such information, few are strong in analyzing the data and, more importantly, making optimal decisions that drive business performance.

INCREASED DATA RESOLUTION

As business sophistication and globalization have evolved, the resolution or granularity of available intelligence has greatly increased. As manufactur-

THERE MAY BE 5,000 MONITORING POINTS AND MILLIONS OF EVENTS EACH MONTH. THIS DEMONSTRATES THE INCREASE IN THE VOLUME OF DATA COLLECTED. UNLESS THIS IS LEVERAGED PROPERLY, IT CAN BE ANOTHER SOURCE OF USELESS DATA.

them to supplier quality, a specific manufacturing plant or even geo-political issues.

When all this information is combined with other forms of communication such as emails, phone conversations, spreadsheets, texts, ers reach deeper and wider, they collect overwhelming amounts of data, thus ensuring information overload. As an example, consider a manufacturing plant. Twenty years ago, the typical plant would collect information by various production lines and



employee shifts. Assuming the plan ran three shifts per day seven days per week, it had access to approximately 100 shifts of data on a monthly basis. The plan could also track hourly variables to assess production metrics. Today, the same plant has access to similar resources, however far more data is collected. Modern manufacturers track events such as scheduled maintenance, uptime, downtime, changeover and interruptions such as departmental meetings. Other dimensions of collected information include specific product lots, customers, etc. Production variables may be tracked by items such as pressure, temperature and humidity, by the hour or even the minute. There may be 5,000 monitoring points and millions of events or data points per month. This example demonstrates the increase in the volume of data collected - all for good reason. Unless this information is leveraged properly, however, it can be yet another source of useless data.

Many organizations operate with a goal to combat information overload. Yet much like the weather, the amount of information created can be beyond our control. The issue is not to fight information overload, but rather to manage the open stream of information and transform the information into a strategic advantage.

TRANSFORM DATA INTO ACTIONABLE KPIS

When working to manage or limit information overload, some manufacturers reduce the amount of data collected, treat all data as valuable and equal, or create more and newer KPIs that can spread resources too thin to accomplish any strategic goals. To avoid information and transform data into actionable KPIs, follow these tips:

> Establish the right KPIs at the right place at the right time for the right people. Not all members of an organization need access to all KPIs at the same time. Focus on reducing the number of daily/weekly/monthly KPIs to help these team members make the best decisions and achieve success. Categorize and assign KPIs based on a major objective or function. For example, the business process of customer service can include KPIs such as ontime shipments, rejected orders, schedule adherence, rework level and other variables.

> Combine indirect KPIs into larger, strategic KPIs. Indirect KPIs are those metrics that correlate or impact other KPIs and may not be found within a straightforward "drill-up" or "drill-down" manner. Considered individually, numerous data points mean very little to corporate executives. But when several small and tactical KPIs are connected and correlated into a single strategic KPI, the dots are connected and executives can review, modify and implement quickly. Indirect KPIs provide insights and correlations where there are seemingly none. Indirect KPIs are more difficult to determine but can provide important insights. An example of indirect KPIs can occur when financial metrics are connected to supply chain metrics. One manufacturing organization observed that certain customers were habitually late with payments, resulting in reduced working capital. Using indirect KPIs, the organization was able to determine this was due to late shipping from a specific subset of their manufacturing plants. Drilling down and across the KPI chain uncovered a supplier of one key raw material that had fluctuations in product quality. This caused manufacturing delays, resulting in delayed shipments. By working with the supplier, the raw material became more consistent, eliminating delays in manufacturing and enabling customers to remit payment in a more timely manner.

> Use a "shallow-dive" strategy. Shallow-dive analytic strategy provides high-level insight and directions on the areas which require further exploration. By skimming the surface of an ocean of data, executives can determine where to go deep. By thinking in terms of shallow-dives, companies can reduce the number of KPIs "per dive." This tactic is especially necessary in an age of information overload and reduced attention span. According to Statistic Brain, the average person's attention span is 8.25 seconds in 2015, down from 12 seconds in 2000. This almost 50-percent drop supports a true need for shallow-dive analytics and a lessis-more perspective

> Consider a move to real-time KPIs. Real-time in the supply chain and manufacturing worlds usually refers to the delivery of KPIs within hours vs. days, or within weeks vs. months. These are KPIs where strategic value is derived when information is delivered in a more condensed time period. While on the surface, this may contradict the strategy of "less is more," a real-time strategy provides segregation of KPIs based upon those which need to be delivered and acted upon more frequently. It is important to un-



derstand that not all KPIs need to be migrated to real-time but the selective use of a real-time strategy can establish a smaller set of KPIs that need to be managed on a daily basis.

THE IMPORTANCE OF INSIGHT

In a fast-paced and competitive marketplace, KPIs need to focus on true insight into a business' strengths, weaknesses, vision and opportunities. Each member of an organization has a crucial role in the performance of the supply chain but should be accountable to different KPIs. For example, a company may have a high-level KPI of on-time performance. Different team members contribute to this goal but work with their own disciplines and their own KPIs. The supply manager needs to understand that supply quality can adversely affect on-time performance. In addition, the diminished quality of materials may cause more defects and some level of re-work in the production process, thereby resulting in longer manufacturing time. A maintenance manager may need to adjust maintenance schedules to provide optimal on-time performance while balancing costs.

The most important insight an organization can glean from its supply-chain data is an understanding of where to take action today, tomorrow, next week, next month, next quarter and next year. Business leaders need to challenge their organizations and ask themselves, "Do we need more KPIs or can we start with fewer and enable each member of the organization to take a deeper dive?" **mt**

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