

: *What is operational business intelligence?*

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For 50 years, managers have wanted information systems to provide facts to guide operational business decision making (cf., Luhn, 1958). These systems are variously called data-driven DSS, retrieval systems, active data warehouses and business intelligence systems. Systems that focus on operations data and operations decision making are often termed operational business intelligence (BI) systems. Technology has improved tremendously and it is much faster now to capture, extract, load and retrieve operational data to support real-time action taking and operational performance analysis and monitoring. It is realistic to build operational data-driven, business intelligence DSS.

Many consultants and observers of business intelligence applications like Claudia Imhoff, Cindi Howson and Ron Swift have identified operational BI as an important trend. Imhoff states operational BI means "speeding up the analytics and embedding them in operational processes (Power, 2007)".

Keny and Chemburkar (2006) note operational BI "puts reporting and analytics applications into the hands of business users who can leverage information to work more efficiently and improve results." Bob Violino (2007) claims "operational business intelligence helps companies push key data to the users who need it most."

There is not universal agreement on the scope of operational business intelligence. Analyst Cindi Howson (2007) argues that if managers are "trying to get to the detailed data in the operational system to complete an operational task" then the system is operational BI, but if the goal is "trying to improve a business process by analyzing a predetermined set of metrics relevant to that process", then what is needed is an analytic application.

Aberdeen Group (2007) identifies six "flavors" of operational business intelligence: 1) transactional BI with analysis and reporting, 2) real-time analytics with business rules applied to data as it is captured, 3) near real-time analytics business rules, 4) operational reporting, 5) business activity monitoring or business process monitoring, and 6) decision management based on business rules with integrated reporting and analytic applications. Hatch (2008) generalizes "operational business intelligence is about delivering information to people when and how they need it in the context of business need."

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Supporting operational decision making and monitoring operations are twin goals of systems lumped together as operational BI systems. In general, operational BI is providing time-sensitive, relevant information to operations managers and front-line, customer-facing employees to support daily work processes. These data-driven, decision support systems differ from other DSS and BI systems in terms of purpose, targeted users, data latency, data detail and availability.

Imhoff (2007) concluded "business intelligence has 'invaded' the operational space in a big way, offering in-line analytics, real-time or near real-time decision-making support for all employees in the enterprise. Today's BI environment includes three forms of BI – strategic, tactical, and operational." She defines operational BI as focusing on managing and supporting daily business operations. She identifies the primary users as business analysts, LOB managers, customer-facing staff, and those in operational processes. She identifies a shorter "intra-day" time span than traditional BI. Also, she concludes operational BI data is real-time, low-latency and historical data.

What are application areas for operational data-driven, BI systems? Customer relationship management applications, like preparing revised passenger schedules for passengers on a delayed plane or supporting call center staff who are trying to make decisions (cf., Power, 2003, Swift interview). Direct sales, like supporting a salesperson who uses a PDA to access an operational BI system to "recommend the best-fit fertilizer to the farmer (Violino, 2008)". Monitoring operations, for example, Suzuki uses dashboards to highlight warranty claim and external customer satisfaction data (cf., TDWI.com). Also, monitoring operations at companies like Papa Gino's and Hillman Group. Consolidating data and creating alerts, for example integrating customer reservations data and TSA lists and generating security alert lists. These are major application categories and many more examples are documented at vendor web sites.

What are the expected benefits of operational, data-driven BI? Many benefits are cited and not all are realized in every implementation. It is common to cite faster business decisions and improved efficiency. Some systems support customer-facing personnel and hence improve customer service and relations. Some systems improve the quality of information and reduce costs of obtaining information. Ideally an operational business intelligence system results in more and better use of information and more time spent analyzing and using the information.

As I noted in 2002, "At a fundamental level, the hope has always been that our information and decision support systems will help decision makers monitor events, and evaluate, choose

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and act on alternatives as events actually unfold." We are seeing the "dawn of the real-time enterprise" (cf., Margulius, 2002). Mobile phones will deliver data in real-time to managers, sales staff and emergency personnel, companies will have active datawarehouses, extensive event data will be recorded in real-time, and business analytics will be available in real-time or "near real-time". In general, there will be a greater expenditure in the future of funds on real-time DSS for operational decision support. The possibilities for on-line, real-time decision support in 2008 are much broader than they were in 1982 and 2002 and the systems will certainly be more powerful, but the concept hasn't changed (cf., Power, 2002).

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