bialogics

Business Intelligence Analytics

From Big Data to Actionable Insight: Game-Changing Platform Brings Self Serve Analytics to Healthcare

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The Big Data Challenge in Healthcare

Growing data volumes in healthcare present both a challenge and an opportunity. Never has so much information been logged, recorded, messaged and archived. Yet, without a simple way to turn that stored information into real-time, actionable insight, healthcare organizations are left buried beneath nothing more than a data deluge. Big data just gets bigger.

Healthcare users need an approach to data analytics that enables them to discover meaningful data and present it in an easy-to-understand manner, one that reaches beyond the IT department to include department heads, clinicians and other end-user groups. Users are requesting easier and faster ways to discover relevant patterns and insights in data. Faced with growing pressure to drive optimal care efficiencies, they are looking for self-service capabilities that allow them to perform data analysis from their desktop without the need to request and wait months for IT-driven reports.

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Turning Big Data into Relevant Data

There's no question that multi-system data convergence is allowing for huge data sets of information to be collected, stored and exploited by data analysts at a macro level. But to truly achieve the productivity gains promised by big data, that information must also be broken down into smaller, more manageable chunks that can be easily manipulated by individual users at a micro level. Simply put, big data needs to become relevant data.

Relevant data provides three types of analytics:
1. Descriptive – which reports on the past.
2. Predictive – which uses models based on past data to predict the future.
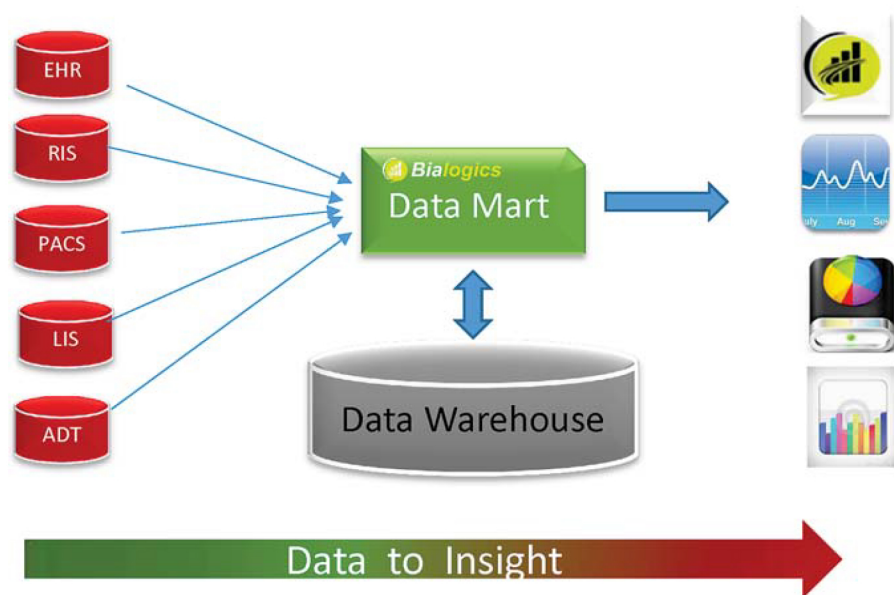3. Prescriptive – which uses models to specify optimal behaviours and actions.

More and more, the emphasis in healthcare is on prescriptive analytics. Users want to be able to embed analytics into their key processes and patient care management systems. To do so requires an easy-to-use analytical platform that clearly identifies relevant data and applies it to form the backbone of operational and performance analytics.

Introducing Discovery-Driven-Data Analysis

Bialogics' new discovery-driven-data Analytics Platform is specifically created to address the rapidly expanding convergence of data within digital healthcare. A state-of-the-art data management tool, it securely and efficiently gathers data from mission-critical clinical systems isolated within hospitals, physician practices and regional infrastructures. Data that is typically locked up in individual applications – such as Admission, Discharge, Transfer, Order Entry, Pharmacy, Laboratory, Digital Imaging or Medical Records – is opened for easy access through an easily configurable, web-enabled interface that allows users to select their own data analysis parameters from a drop-down menu.

Considered a next-generation approach to enterprise analytics, the Bialogics Analytics Platform leverages a range of new, multi-structured data sources that are both internal and external to a healthcare organization. For example, all data elements associated with a diagnostic test, patient interaction or clinical treatment are captured, inspected and stored for the purpose of analysing performance and operational outcomes. Users are empowered to create operational specific analytics that are easy to view and can have an immediate impact on performance and patient care.

> 2015 will be a critical year in which democratizing access to analytics will continue to dominate market requirements ... Next-generation data discovery capabilities that leverage advanced analytics, but hide its complexity to simplify business user data preparation and automate pattern exploration, are likely to be more important enablers.
>
> – Gartner Magic Quadrant for BI, 2015

By automating access to cross-functional data and publishing it as visual, real-time analytics, the Bialogics Analytics Platform enables users to focus solely on the parameters they want to measure. Users scale their big data journey as needs evolve, without the need to apply intensive resources or complex data integrations.

The Bialogics Analytics Platform Explained

The Bialogics Analytics Platform collects data from accurate, standardized sources including HL7, DICOM and XML message structures, with no impact on active production systems. It is designed to exceed the data analysis specifications of most electronic health applications and can accommodate an unlimited number of independent data sources.

Data is collected through a mirrored or spanned port on either a single switch, or up to four separate switches. The system automatically captures, parses and stores health protocol messages travelling on a health network, making the information available for analysis. Testing is performed to ensure 99.999% accuracy, ensuring that the Bialogics Analytics Platform becomes the source of truth for data analysis.

End-users do not require formal data analysis training. They have the option of using built-in summaries included with the product – such as the Bialogics Diagnostic Imaging application, third-party specific analytical applications and R analytical program – or they can easily create their own specialized summaries using simple data extract and mapping services supplied. Variables can be added to the summaries at any time, as requirements change. Once created, data is presented in near real-time, delayed only by the parsing process.

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Democratizing Big Data: Benefits

The Bialogics Analytics Platform removes limitations of current data analysis practices within healthcare institutions. Instead of going back and forth through a complex data analysis process involving IT, end-users simply select their parameters and data is automatically collected, normalized and presented in an interactive, visual application program of their choosing.

When measured against the 13 Critical Capabilities outlined in the 2015 Gartner Report examining Business Intelligence and Analytics Platform Capabilities, the

BiaLogics Analytics Platform hits the mark, bringing the following advanced capabilities to healthcare:

- Drag-and-drop, user-driven data modelling.
- A common look and feel across all platform components.
- Secure user administration.
- A robust and centralized way to search, capture, store, publish and reuse metadata objects.
- Private cloud support to enable platform-as-a-service capabilities.
- An easy-to-use set of tools for building reports, dashboards, queries and analyses.
- Cross-functional data availability.
- Fast, ad-hoc end-user analysis with real-time and intuitive analytics.

Bialogics Use Case – Diagnostic Imaging

One of the first areas to capitalize on the Bialogics Analytics Platform is Diagnostic Imaging (DI). Today's DI Departments are dedicating costly IT resources to ensure compliance with government reporting requirements. Reports take a long time to compile and most departments operate three to four months behind current state on average.

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By implementing the Bialogics Analytics Platform, DI Departments are able to analyse their entire operation, including Image Management, Procedure Management, Practice Management and in-depth Workflow Analysis, incorporating navigation paths for deep drill-down analysis and clinical research. Reports are created once and then routinely updated and distributed to meet the reporting requirements of the institution.

Bialogics Use Case – Widespread Adoption of Analytics

Due to its ability to decentralize the analytics process, the Bialogics Analytics Platform is also enabling widespread adoption of analytics across all departments and services to inform operational and performance decisions. The Bialogics approach allows users to create, analyse and report on key performance indicators (KPIs), transforming analytics from a manual, paper-based data collection process, to an automated, decision–supported managerial process.

Why Bialogics?

The process of democratizing access to analytics – in other words, delivering self-service, interactive analytical capabilities to users at all levels of a healthcare organization – is expected to dominate the big data market in coming years, according to the 2015 Gartner Report on BI. Next-generation data discovery analytics platforms that leverage advanced capabilities, hide complexity, and provide users with simple business tools to explore data in a meaningful way, are considered important industry enablers.

The more healthcare turns to digital solutions, the greater the need for platforms that can scale and perform, and accurately leverage the large amounts of diverse data collected.

The Bialogics Analytics Platform offers a vendor neutral approach to big data analysis that includes access to summaries for R, the analytical program used by more than two million professional worldwide. It works with all commercial analytics packages currently available and provides seamless integration with research tools such as Tableau, ANYlogic and others, right out of the box.

To ensure fast integration with a healthcare organization's existing analytics strategy, the Bialogics Analytics Platform is populated with pre-selected clusters of data variables. In addition, a search and retrieve function allows users to pull an unlimited number of variables out of the data mart as needed.

The Bialogics Analytics Platform is quick to implement, with no complex integrations required, and is cost effective to maintain with no expensive subscription costs. Bialogics is dedicated to the healthcare industry and works extensively with industry-leading customers and partners to inform the design of its products, solutions and services.

For additional information, please contact: info@bialogics.com, www.bialogics.com, or call (250) 405-5380, ext. 227.

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