

## REPORT REPRINT

# Cybage DecisionMines uses AI and machine learning to augment business decision-making

**KATY RING**

**27 APRIL 2018**

The company is seeking partnerships to expand market reach for its promising DecisionMines platform that addresses complex tasks performed by a human alone, or a human augmented by a machine learning program.

---

THIS REPORT, LICENSED TO CYBAGE, DEVELOPED AND AS PROVIDED BY 451 RESEARCH, LLC, WAS PUBLISHED AS PART OF OUR SYNDICATED MARKET INSIGHT SUBSCRIPTION SERVICE. IT SHALL BE OWNED IN ITS ENTIRETY BY 451 RESEARCH, LLC. THIS REPORT IS SOLELY INTENDED FOR USE BY THE RECIPIENT AND MAY NOT BE REPRODUCED OR RE-POSTED, IN WHOLE OR IN PART, BY THE RECIPIENT WITHOUT EXPRESS PERMISSION FROM 451 RESEARCH.



©2018 451 Research, LLC | [WWW.451RESEARCH.COM](http://WWW.451RESEARCH.COM)

The goal in applying machine learning to a problem is to automate or optimize a process, or perform a combination of the two techniques. At this point in the evolution of machine learning, the tasks being performed are often repetitive and somewhat mundane. Machine learning software performs tasks currently carried out by humans, but is not displacing them from entire jobs. Low-level tasks are fully automated, while more complex tasks are performed by a human alone or a human augmented by a machine learning program. It is the latter scenario that Cybage is targeting with its DecisionMines platform.

---

## THE 451 TAKE

As more enterprises are considering how to apply machine learning to aid decision-making, Cybage is entering the market with an offering, DecisionMines, that comes with learning and decision points the company has developed over several years to support the growth of its own business. The product will undoubtedly help Cybage continue to develop its enterprise customer base, especially if it can sign some partnership agreements around DecisionMines with third-party consultancies.

---

## CONTEXT

Cybage is a software services company headquartered in Pune, India, that is 22 years old. It has a heritage of being a software product-engineering services outsourcer. It has more than 5,500 employees, and revenue that 451 Research estimates to be in the region of \$150m. It has a strong background in product engineering, working with ISVs such as Symantec, Google and Experian, and has 200 customers globally, many in the Fortune 500.

A year ago, the company decided to focus on enterprises, and has seen 20% year-on-year organic growth in this area, where it is servicing companies in media and entertainment, travel and hospitality, online retail and high-tech sectors. In the enterprise segment, it provides portals and websites, digital roadmaps and consulting, mobility, analytics and dashboards, integration services, BPM, automation and applications and collaborative software.

These services are delivered by five global delivery centers (four in India, and one in the US), drawing from Centers of Excellence in e-commerce, cloud and big data, enterprise mobility, BI, enterprise content management and CRM. The company has created an internal business management software tool, DecisionMines, which it is now bringing to market.

## DECISIONMINES

DecisionMines is both a predictive and prescriptive analytics capability that can be used to diagnose and predict problems. However, any action is undertaken by humans rather than by DecisionMines, which is why the company positions it as 'integrating the science of data with the art of judgement.' The offering pulls data from existing systems to, for example, identify high-potential customers for growth in a CRM context, and then supports decisions to nurture further sales.

The purpose of the platform is to move business decision-making from human subjective reasoning to human objective reasoning using descriptive hindsight and diagnostic insights, and then generate predictive foresight and prescriptive insights. The next step would be to enter the realm of deep learning, but the product does not support this yet.

DecisionMines primarily uses supervised machine learning, and does not support unsupervised learning or reinforcement learning to any great extent. As part of the capability, Cybage has packaged up more than 80 decision points across 200 entities such as people, places, dates and values (and can scale to 100,000 entities). The offering is sold to organizations needing to support from two to 250 decision-makers. It comes with out-of-the-box templates for wealth management, catalog management, fleet management, franchise performance, talent acquisition, management and retention, property management, risk management and revenue management.

The data capture systems within DecisionMines converts data to actionable insight, and enables humans to interact with the system to create the cognitive loop. The system makes use of multidimensional scoring, and APIs can be plugged into existing systems to perform entity-level scoring. There are multiple scoring areas that identify which action points need to be formalized, and in which order to support organizational goals. DecisionMines also provides relative gamification within, say, peer groups in account acquisition and growth, and provides decision points.

Within the cognitive loop created by DecisionMines, the end user is consuming services from the system to execute decisions. End users then provide feedback around certain decision points (whether they are pleased or not with outputs) and this informs how well the model is performing. In addition, power users can provide weighting or modeled biases to help with the internal feedback mechanism to define existing learning.

One templated offering available with DecisionMines is wealth management for banking to support productivity and customer satisfaction, and to bring customer acquisition costs down. To reduce customer attrition and raise retention, organizations need actionable data so they can understand which customers to focus on, and what actions to take.

To do this, DecisionMines integrates data from CRM, wealth management, core banking and customer support systems, and combines this with pre-configured machine learning to provide decision-point offerings in areas such as customer retention, prospect conversion and relationship management. Clients can opt for a full templated product or pick a decision point in one of them. Cybage can offer this range because it has a library of algorithms, and knows how to orchestrate them to solve specific decision points.

## STRATEGY

DecisionMines has existed as a product for 10 months, and is now in use with several external organizations. The company sells either managed decision points or the full DecisionMines offering – for decision points, there is a license-based fee with an ongoing availability fee that forms a percentage of the license. There are cloud, on-premises and hybrid versions of the platform, and because DecisionMines has an adapter framework and connectors, other data sources can be added.

Within Cybage, the DecisionMines team is 150 people strong and sells the capability directly, as well as using the wider Cybage sales force. The company is also looking for partnerships with consultancies, and plans to make its analytics engine available to them.

## COMPETITION

Cybage DecisionMines has some large competitors in the market, which include SageMaker from AWS, for data scientists who have some knowledge of machine learning and want to build custom models but are not infrastructure experts. Google AutoML and Microsoft Cortana are also providing ways to make use of machine learning easier. For example, Microsoft's Cortana Intelligence Suite is a data-analytics platform on which to build machine-learning-driven applications. Microsoft has also built some applications itself, such as Personalized Offers, Campaign Optimization and Predictive Maintenance.

IBM has its Watson-branded tools: Watson Analytics for cloud-based automated data analysis, visualization, predictive and prescriptive analytics; Watson Conversation for building chatbots; and Watson Knowledge Studio, a cloud-based entity extraction and annotation app for analyzing unstructured text without writing code. IBM has also applied the Watson brand to some business applications that have had elements of machine learning added to them such as Watson Marketing, Watson Commerce and Watson Supply Chain.

Business applications vendor Infor is building machine learning into its suite of industry-specific applications, having announced Coleman, its machine learning technology for image recognition, voice interaction and automation. It already has available machine-learning-driven services like predictive inventory management for health-care and price optimization management for hospitality.

Meanwhile, SAP has integrated machine learning functionality into many of its enterprise software offerings, such as customer retention, business analytics and brand impact, under its Leonardo brand. The company has also launched the Leonardo Machine Learning Foundation, a set of self-serve machine learning business services wrapped in APIs for customers to use in their own applications.

## SWOT ANALYSIS

### STRENGTHS

Cybage may be a new entrant in this product market, but it is not a startup and has developed its platform over several years to support its own business. Consequently, this provides it with operational credibility that is lacking from some of its giant competitors.

### WEAKNESSES

Although DecisionMines can be used in a wide variety of scenarios, Cybage is probably best advised to focus on specific areas of strength where it has developed decision points, for example, to help with market positioning and messaging.

### OPPORTUNITIES

As it develops partnerships with consultancies, this will provide opportunities to increase both the geographic and sector reach of DecisionMines in markets such as Europe and the Middle East.

### THREATS

Machine learning is being added to a range of business applications and development platforms, so Cybage will need to keep enhancing DecisionMines to continue offering capabilities that are not widely available in the software that enterprises are already investing in.