



Predictive Analytics: The Hurwitz Victory Index Report

Excerpt

Fern Halper, Ph.D



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Related Research: Advanced Analytics: End User Experiences and Future Plans (2011)
Find it online at www.hurwitz.com



Introduction

Predictive analytics is being embraced at an increasing rate by organizations that need to gain actionable and forward-looking insight from their data. While much of the statistics and data mining technology for predictive analytics has been around for decades, over the past several years the market has become red hot.

What has changed? Twenty years ago, statisticians in companies were able to predict who might drop a service using survival analysis or machine learning techniques. However, it was difficult to persuade other people in the organization that such analytics could be used to provide competitive advantage. For one thing, it was difficult to obtain the computational power needed to interpret data that kept changing through time. Additionally, predictive analytics was the realm of statisticians and mathematicians. Generally, this analysis was performed using some sort of scripting language. Model output could be hard to understand. Finally, it could be nearly impossible to convince a call center, for example, that this analysis needed to be “operationalized” using rules or scores derived from the models as part of a process to reach out to at risk users. It would have also been difficult to implement.

Today, adoption of predictive analytics has increased for a number of reasons including a better understanding of the value of the technology and the availability of compute power. Economic factors are also a driving force in utilizing predictive analytics for business as companies realize that simply looking in the rear view mirror to gain insight and make decisions is not enough to remain competitive. Companies want to better understand what actions their customers might take. They want to better predict failures in their infrastructure. The uses for predictive analytics are extensive and growing. Many vendors have made it a point to try to make predictive analytics more “user friendly” by automating some model building capabilities and providing information that is more easily understood by business users. Implementing predictive analytics as part of a business process has also become more popular as the software tools and techniques and the hardware to support this kind of deployment become more available.

Predictive analytics has become a key component of a highly competitive company’s analytics arsenal. Hurwitz & Associates defines predictive analytics as:

A statistical or data mining solution consisting of algorithms and techniques which can be used on both structured and unstructured data (together or individually) to determine future outcomes. It can be deployed for prediction, optimization, forecasting, simulation, and many other uses.

Table 1, on the next page, highlights some of the popular uses for predictive analytics.

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Table 1: Use cases for predictive analytics

Area	Use Case
Marketing analytics	Predicting consumer behavior, churn analysis, consumption analysis, propensity to spend
Business analytics	Economic forecasting, business improvements, risk analysis, financial modeling
Industry specific analytics	Reliability assessment (i.e. predicting failure in machines), analytics situational awareness, behavior (defense), investment analysis, fraud identification (insurance, finance), predicting disabilities from claims (insurance), finding patterns in health related data (medical)

End users and vendors alike see great advantages to incorporating predictive models in their business processes. For example, statisticians at an insurance company might build a model that predicts the likelihood of a claim being fraudulent.

Market Trends for Predictive Analytics

As end users grow to understand the value of predictive analytics, the market itself is evolving to include solutions targeted at different kinds of users and to deal with more data, and different deployment models. Hurwitz & Associates sees the following trends in the predictive analytics market:

- Providing solutions across the user spectrum.** Whereas the traditional user of predictive analytics was a statistician or other quantitative analyst, there is a change occurring in user type. A recent Hurwitz & Associates survey on Advanced Analytics (2011) indicates a shift towards business analysts as users of these products and services. This shift has spawned different philosophies and strategies among analytics vendors. Some are providing more user-friendly Graphical User Interfaces (GUIs) and automating their process of building predictive analytics models. For example, a number of vendors assessed in this report including KXEN, IBM SPSS, Pitney Bowes, SAS, and StatSoft, offer this capability. Vendors such as TIBCO are providing ways to share the results of a complex analysis via interactive mashups or other Web interfaces. These strategies can help non-technical users build and make use of a certain level of predictive analytics. Other vendors, such as Angoss, try to reduce the complexity of predictive analytics by offering both an on-premises version of the software as well as the results in a Software as a Service (SaaS) framework for the end user.
- Operationalizing models.** End users and vendors alike see great advantages to incorporating predictive models in their business processes. For example, statisticians at an insurance company might build a model that predicts the likelihood of a claim being fraudulent. The model, along with some decision rules could be included in the company's claims processing system in order to flag claims with a high probability of fraud. These claims would be sent to an investigation unit for further review. In other cases, the model itself might not be as apparent to the end user. For example, a model could be built to predict customers who are good targets for upselling when they call into a call center. The call center agent, while on the phone with the customer, would receive a messages on specific additional products to sell to this customer. The agent might not even know that a predictive model was working behind the scenes to make this recommendation. Companies such





as IBM SPSS, Pegasystems, StatSoft and SAS are offering solutions to support this kind of deployment which might include model scoring as well as rules for decision-making.

- **Model management.** More vendors are beginning to offer solutions that help manage the development and deployment of models. There is a movement away from simply utilizing a directory structure to providing more robust solutions that can, for instance, help manage model versioning or alert an analyst when a model gets stale. Vendors like IBM SPSS, SAS and StatSoft currently offer these capabilities. Others, like Pitney Bowes, say they will be providing them in the near future.

This is an excerpt of trends. A complete listing is included in the full report.

What is the Victory Index?

The Hurwitz & Associates Victory Index is a market research assessment tool, developed by Hurwitz & Associates that analyzes vendors across four dimensions: Vision, Viability, Validity and Value. What is unique about the Victory Index? Hurwitz & Associates takes a holistic view of the value and benefit of important technologies. We assess not just the technical capability of the technology but its ability to provide tangible value to the business. For our inaugural Victory Index report we have selected the field of predictive analytics. Intensive research by our analysts on the business value of this technology supports our conclusion of great potential for continuing innovation and market growth in this arena.

Victory Index Methodology

Key Metrics

In order to provide a comprehensive understanding of the market and the vendors, Hurwitz & Associates applies a rigorous methodology that employs approximately 50 attributes across four dimensions, which are analyzed with a weighted algorithm. These dimensions are explained below and the specific metrics are presented in Table 2.

- **Vision: The strength of the company's strategy.** Attributes evaluated here include: Is the vision not only realistic but also compelling? It is not enough to simply have a good vision; a company must also have a well-designed road map that can support this vision. Vision attributes also include more tactical aspects of the company's strategy such as a technology platform that can scale, well articulated messaging, and positioning. A key component of this dimension is clarity: it must be clear what business problem the company is solving for which customers.
- **Viability: The strength and vitality of the company in the market.** There is often not a direct correlation between the market strength of a company and its revenue or the number of years that it has been in business. This

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is especially true when a market is emerging. Sometimes an emerging company can become a giant within a few years if they solve a complicated customer problem. Hurwitz & Associates evaluates a complex set of financial and company specific attributes that, when combined, help to determine the viability of a company. Attributes include financial ratios, customer adoption rates, intellectual property, strength of management team, and strength of partnerships. We are also concerned with the vitality of the company in a particular market. For example, a large company might be strong and vital in a certain product area, but may be lagging in the predictive analytics space because of limited investment or market push.

- **Validity: The strength of the product that the company delivers to customers.** There is a distinction between the positioning of a product and its ability to satisfy customer requirements. Therefore, the Victory Index analyzes how well a company executes on its promises. This part of the Index examines the features and functions delivered. It looks at how deep the functionality is and how effective the product is at evolving based on changing customer requirements. Other important attributes include ease of use, innovation, how well the product integrates with other technologies that customers need, and how well it incorporates important de facto and de jure standards.
- **Value: The advantage the technology provides to customers.** Even if a product is well designed, it must be able to help businesses achieve their business goals. Goals range from gaining insight about customers in order to be more competitive, to using the technology to increase revenue. A key attribute that is measured in this dimension is how well the product supports companies in meeting their objectives.

Sometimes an emerging company can become a giant within a few years if they solve a complicated customer problem.

Table 2: Victory Index attributes

Dimension	Attributes
Vision	<ul style="list-style-type: none"> • Vision: clarity of vision, practicality of vision, a compelling vision, target market alignment, product direction and road map, leadership team vision • Messaging: strength of message, key differentiator value • Direct feedback from customers regarding vision
Viability	<ul style="list-style-type: none"> • Viability measures: revenue/employee, net profit, current assets/current liability, revenue growth, customer growth • Vitality: strength of intellectual capital, strength of leadership team, customer adoption, customer stability, competitive strength in a particular market, market presence, channel strategy • Direct feedback from customers regarding viability/vitality
Validity	<ul style="list-style-type: none"> • Direct customer measures: breadth and depth of functionality, technical benefit, tools and technology, technical value, performance, scalability, flexibility • Product functionality: data types supported, data preparation, model management and support, integration capabilities, model export capabilities, databases supported, in-database functionality, models supported, and other unique features



Value	<ul style="list-style-type: none"> • Direct customer measures: customer satisfaction, customer support from customer's perspective, ease of use, product innovation, business benefit as determined by customer, time to value, value/price • Social media metrics around customer loyalty and brand value
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The Vision, and Viability indicators are further grouped under the heading of Market Strength since these metrics, analyzed together, give a good indication of the strength of the offering to the market. The Value and Validity measures are also analyzed together since they give a good indication of how customers view the offerings.

Data Sources

Data for scoring comes from multiple sources:

- **Vendor surveys:** An extensive survey was designed to obtain information on each vendor's vision, strategy, products, financial, and company stability, as well as what the company believes to be its value. Hurwitz & Associates also conducted briefings with each vendor to further augment and understand this information. In several cases where the vendor chose not to complete a survey, information obtained from other data sources were compiled in order to understand these attributes and a written summary was provided to the vendor for fact check and review.
- **Vendor references:** Each vendor supplied 3-5 names of clients who provided input regarding the value and validity of the vendor products to Hurwitz & Associates. Hurwitz & Associates either sent a survey to each of these clients or conducted a phone conversation with them, or both. Given that many companies use more than one predictive analytics solution, these conversations were also used to understand where one vendor's product provided value in comparison to other vendor solutions.
- **Online Victory Index Survey:** In addition to speaking with vendor references, Hurwitz & Associates conducted several online surveys to gather direct customer feedback regarding vendor products. We compiled results from hundreds of companies regarding how they were using vendor products, what they were using them for, and their experience with the product. We also asked respondents to rate the vendor's products across the four Victory Index dimensions listed above. Survey results provided an objective view of each vendor's offering.
- **Social media:** A unique aspect of the Victory Index is that it uses social media data to help inform results. Social media was used, when appropriate, to determine brand media dominance, brand loyalty and strength, and brand value. The commercial product, NetBase (www.netbase.com), was used to perform this analysis. Netbase Social Media Insight & Analysis is used by marketing teams to understand online brand equity, analyze and compare customer passion, and generate insights that answer "why" questions. The platform is used by hundreds of corporate customers, and was developed in partnership with five of the top 10 consumer packaged goods companies, including Coca-Cola and Kraft.
- **Hurwitz inquiries:** Input from discussions with Hurwitz clients was used in the study.

A unique aspect of the Victory Index is that it uses social media data to help inform results.



- Other secondary sources included investment reports and public filings among others.

Vendor Selection

Unlike other assessment methodologies that limit the vendors to be included based on size, we felt it was important to present potential buyers with a range of different solution options. Whereas, in the past, predictive analytics solutions were predominately used by larger enterprises, some of the solutions on the market today have a price point that makes it feasible for use by smaller companies, too. Therefore, we have included vendors that may be new to the market, but have offerings worthy of consideration from buyers. These include vendors that are offering cloud solutions in the form of SaaS as well as vendors that are utilizing open source solutions as a basis for their offerings. We have also included companies that may have a strong presence among data miners, but have not yet appeared on the radar screen of the business buyer.

We believe all of the companies that we selected are strong contenders in the Victory Index.

Additionally, we have decided not to include Business Intelligence (BI) vendors in the report, such as IBM Cognos or SAP Business Objects, unless the vendor has a named, specific predictive analytics offering (i.e. SAP Predictive Workbench, SAS Enterprise Miner). We did this for several reasons. First, predictive analytics is often included under the BI umbrella, although the technologies tend to be different. We wanted to focus on players with a focus on predictive analytics so as not to cloud the issue. Second, often the audience for BI and predictive analytics is different. BI might be an IT buying decision, but predictive analytics deals mostly with the line of business. So, while many BI vendors offer forecasting capabilities, we felt companies exploring predictive analytics products were looking for solutions from a particular class of vendor. Of course, predictive analytics are often used in conjunction with BI offerings.

The vendors profiled in this study include Angoss, KXEN, IBM SPSS, Megaputer Intelligence, Pegasystems, Pitney Bowes, Rapid-I, Revolution Analytics, SAP, SAS, StatSoft, and TIBCO Spotfire. Some of these vendors offer solutions that are broad based, statistical and data mining solutions that can be used for a variety of use cases. These vendors often offer targeted solutions in particular areas. Others, such as KXEN, Pegasystems, and Pitney Bowes are more customer-relationship-problem focused.

This is an excerpt of the report. Results and Vendor Assessments are included in the full report.

For information about the full report please contact info.request@hurwitz.com

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About Hurwitz & Associates

Hurwitz & Associates is a consulting, market research and analyst firm that focuses on how technology solutions solve real world business problems. The firm's research concentrates on disruptive technologies, such as Cloud Computing, Service Oriented Architecture and Web 2.0, Service Management, Information Management, and Social and Collaborative Computing. We help our customers understand how these technologies are reshaping the market and how they can apply them to meet business objectives. The team provides direct customer research, competitive analysis, actionable strategic advice, and thought leadership. Additional information on Hurwitz & Associates can be found at www.hurwitz.com.



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175 Highland Avenue, 3rd Floor • Needham, MA 02494 • Tel: 617-597-1724
www.hurwitz.com