

# 2013 Data Miner Survey

## – Summary Report –

For more information contact  
Karl Rexer, PhD  
[krexer@RexerAnalytics.com](mailto:krexer@RexerAnalytics.com)  
[www.RexerAnalytics.com](http://www.RexerAnalytics.com)

# Outline

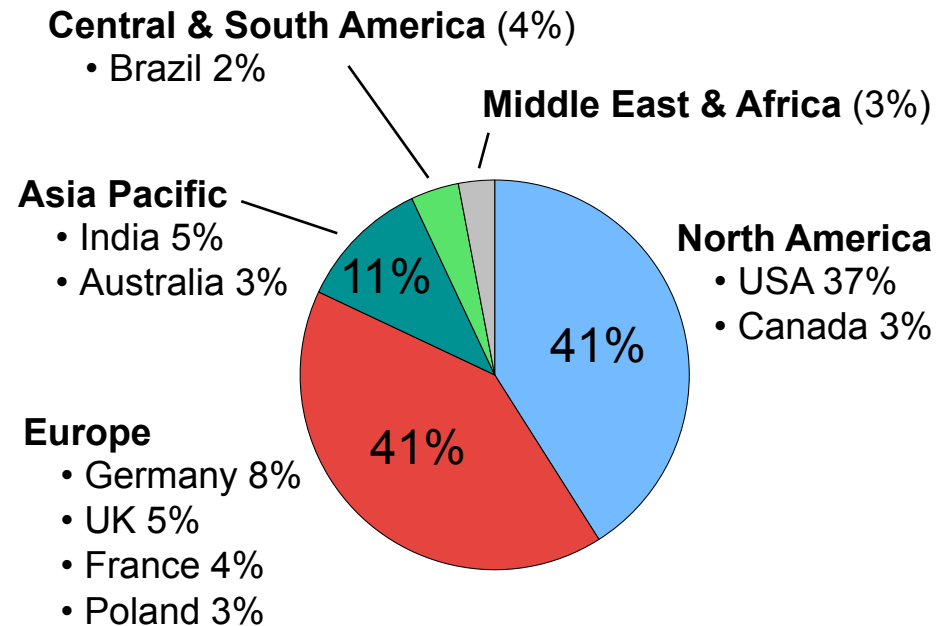
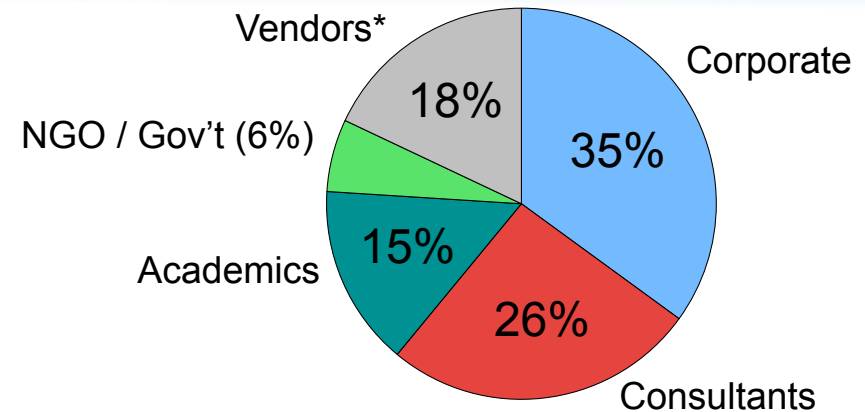
- Overview & Key Findings
- Focus on CRM
- Big Data
- The Ascendancy of R
- Challenges in the Use of Analytics
- Engagement & Job Satisfaction
- Analytic Software
- Other Findings
- Appendix: Rexer Analytics

# Overview & Key Findings

# 2013 Data Miner Survey: Overview

Vendors are included in this analysis.

- 6<sup>th</sup> survey since 2007
- 68 questions
- 10,000+ invitations emailed, plus promoted by newsgroups, vendors, and bloggers
- Respondents: 1,259 data miners from 75 countries
- Data collected in first half of 2013



\*Data from software vendors is excluded from analyses in this presentation unless otherwise noted.

# Key Findings

- **FOCUS ON CRM:** In the past few years, there has been an increase among data miners in the already substantial area of customer-focused analytics. Respondents are looking for a better understanding of customers and seeking to improve the customer experience. This can be seen in their goals, analyses, big data endeavors, and in the focus of their text mining.
- **BIG DATA:** Many in the field are talking about the phenomena of Big Data. There are clearly some areas in which the volume and sources of data have grown. However it is unclear how much Big Data has impacted the typical data miner. While data miners believe that the size of their datasets have increased over the past year, data from previous surveys indicate that the size of datasets have been fairly consistent over time.
- **THE ASCENDANCE OF R:** The proportion of data miners using R is rapidly growing, and since 2010, R has been the most-used data mining tool. While R is frequently used along with other tools, an increasing number of data miners also select R as their primary tool.
- **CHALLENGES IN THE USE OF ANALYTICS:** Data miners continue to report challenges at each level of the analytic process. Companies often are not using analytics to their fullest and have continuing issues in the areas of deployment and performance measurement.
- **ENGAGEMENT & JOB SATISFACTION:** The Data Miners in our survey are highly engaged with the analytic community: consuming and producing content, entering competitions and searching for education and growth within their jobs. All of these activities lead to high job satisfaction, which has been increasing over time.
- **ANALYTIC SOFTWARE:** Data miners are a diverse group who are looking for different things from their data mining tools. Ease-of-use and cost are two distinguishing dimensions. Software packages vary in their strengths and features. STATISTICA, KNIME, SAS JMP and IBM SPSS Modeler all receive high satisfaction ratings.

# Focus on CRM



# Analytic Goals Increasingly Focus on CRM

In the past few years, there has been an increase among data miners in the already substantial area of customer-focused analytics. Respondents are looking for a better understanding of customers and seeking to improve the customer experience. This can be seen in their goals, analyses, big data endeavors, and in the focus of their text mining.

Seven of the top ten analysis goals identified this year were directly related to customer service or marketing. Four of these goals increased in popularity by eight points or more since our last survey in 2011.

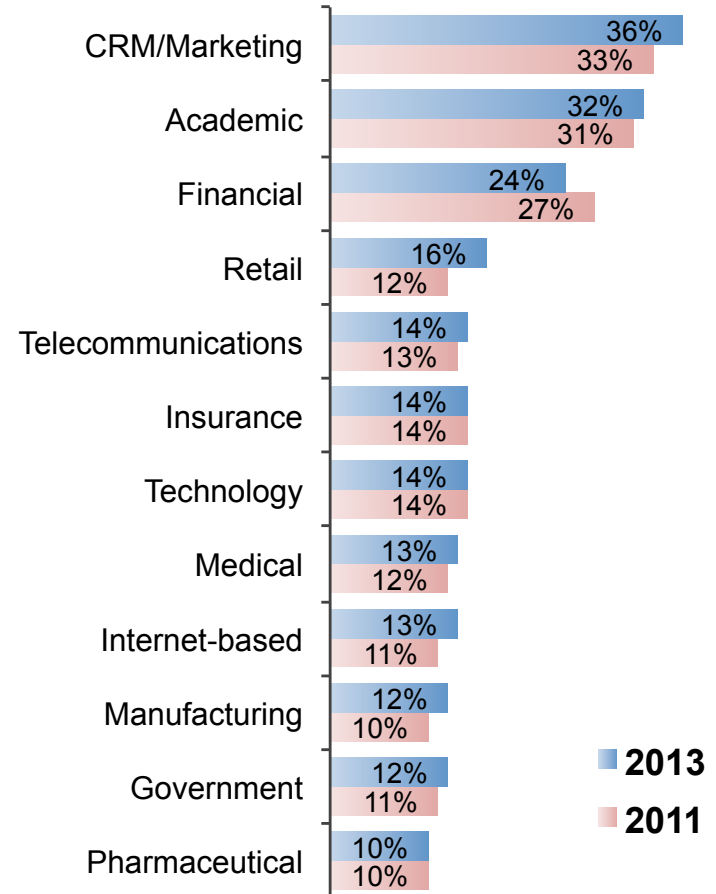
	2011	2013
Improving understanding of customers	33%	45%
Retaining customers	30%	36%
Improving customer experiences	22%	36%
Market research / survey analysis	29%	36%
Selling products / services to existing customers	23%	33%
Acquiring customers	23%	32%
Improving direct marketing programs	22%	27%
Sales forecasting	19%	27%
Risk management / credit scoring	22%	26%
Fraud detection or prevention	21%	23%
Price optimization	14%	22%
Medical advancement / drug discovery / biotech	12%	17%
Manufacturing improvement	10%	15%
Investment planning / optimization	11%	13%
Website or search optimization	8%	12%
Supply chain optimization	7%	11%
Software optimization	7%	9%
Human resource applications	4%	8%
Collections	6%	7%
Language understanding	4%	7%
Information security	4%	5%
Natural resource planning or discovery	3%	5%
Criminal or terrorist detection	4%	4%
Fundraising	3%	3%
Reducing email spam	2%	2%

Question: What were the goals of your analyses in the past year? (select all that apply) (Substantial changes noted in red)

# CRM / Marketing: #1 Place for Data Miners

CRM / Marketing remains the #1 area to which data mining is applied.

The roots of data mining in customer focused analytics are strong. In each of the 6 Data Miner Surveys, more people report applying their analytics in the field of CRM / Marketing than any other field. In 2013, 36% of data miners indicated that they are commonly involved in CRM / Marketing data mining, up slightly from 2011. The number of data miners working in the overlapping area of Retail analytics is also increasing.



Data miners also report working in Non-profit (5%), Hospitality / Entertainment / Sports (4%), Military / Security (2%), and Other (10%).

Question: In what fields do you TYPICALLY apply data mining? (Select all that apply)

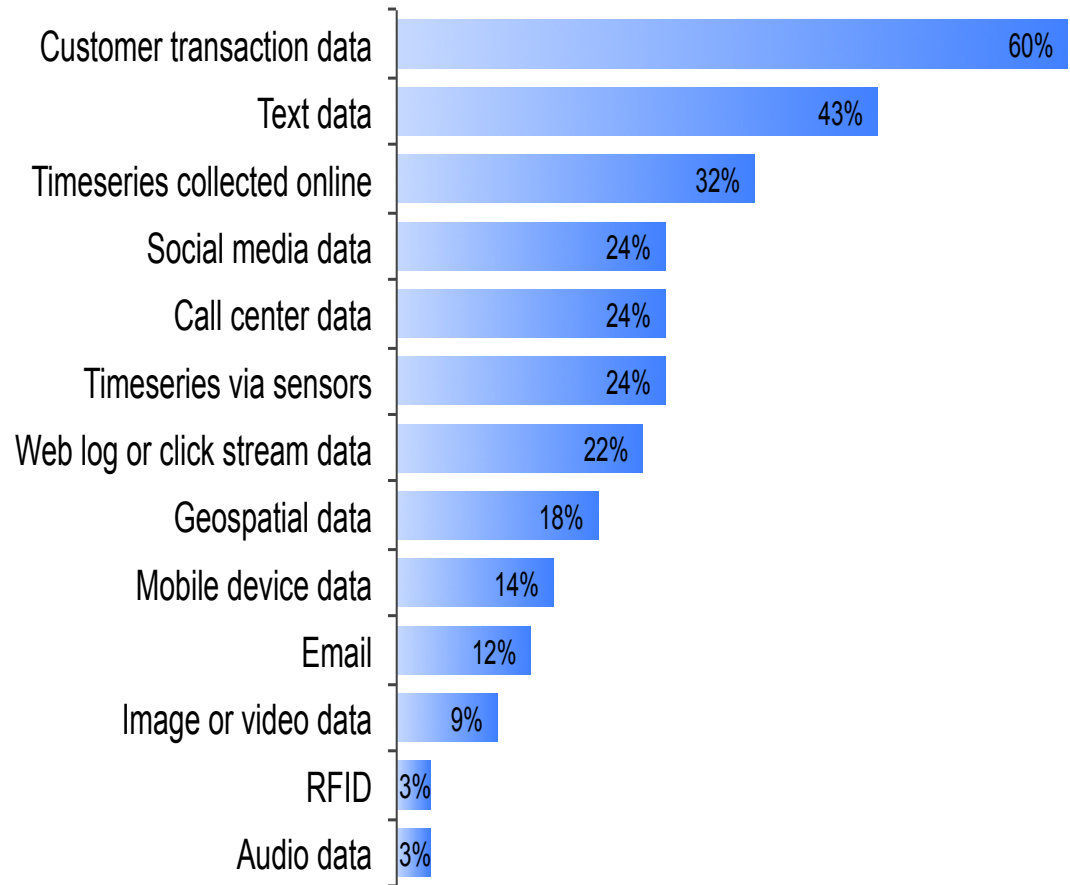


# Customer Transactions: #1 Source of Large Data

Customer transactional data often affords the opportunity for a wide range of analytics due to the depth and scope of available data.

Among respondents who reported increases in data volume, 60% identified customer transaction data as a source of their large data sets.

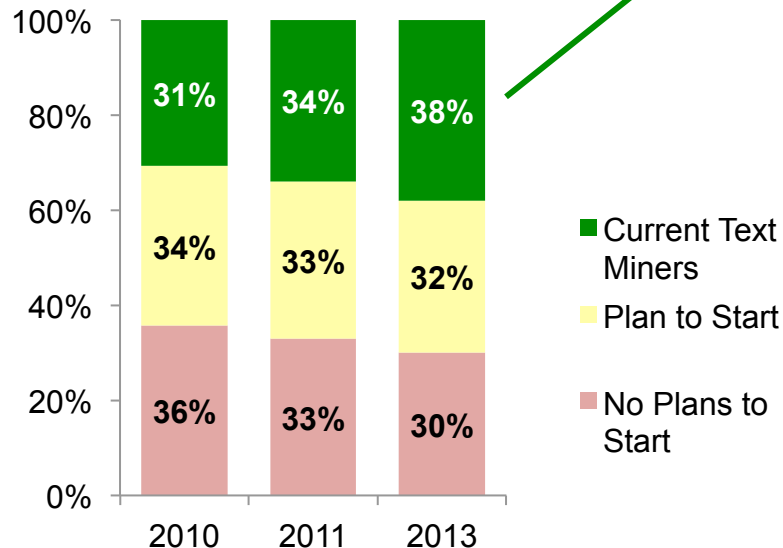
## Sources of Large Data



Question: What are the sources of data for your large datasets? (select all that apply)

# Customer Service and Text Mining

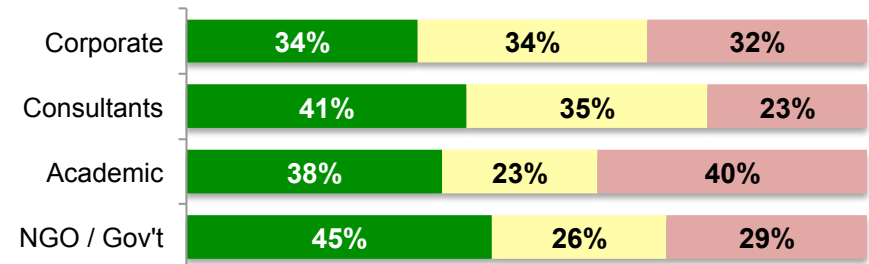
Text mining adoption has steadily increased since 2010, to its present state where 38% of data miners incorporate text mining into their analyses. Particular growth is seen in the use of text mining for the purposes of customer service. This is not surprising given the opportunity that verbatim customer comments afford organizations in understanding the experiences and needs of their customers.



Question: Which is the best description of your use of text mining?

	2011	2013
Blogs and other social media	33%	39%
Customer / market surveys	38%	36%
Online forums or review sites	21%	28%
News articles	25%	27%
Scientific or technical literature	23%	25%
Web-site feedback	22%	25%
Contact center notes or transcripts	16%	25%
E-mail or other correspondence	27%	22%
Point of service notes or transcripts	10%	20%
Employee surveys	15%	18%
Insurance claims or underwriting notes	15%	14%
Medical records	11%	14%

Question: In your text mining, what text material do you analyze or plan to analyze? (Substantial changes noted in red)



Data miners working in Government settings are most likely to be actively using text mining.

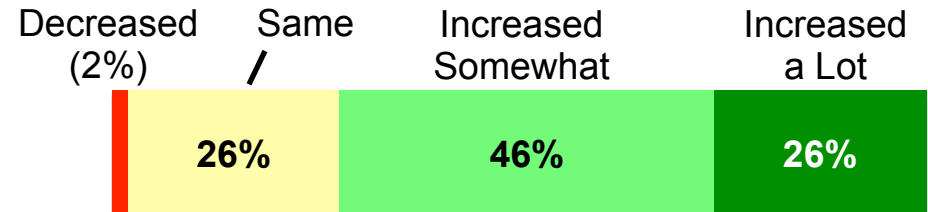
# Big Data

# Big Data: Hype or Reality?

There is a lot of talk in the business and technical press about Big Data. Clearly some businesses and scientific areas are working with very large data sets. However, it is unclear how much Big Data has impacted the typical data miner.

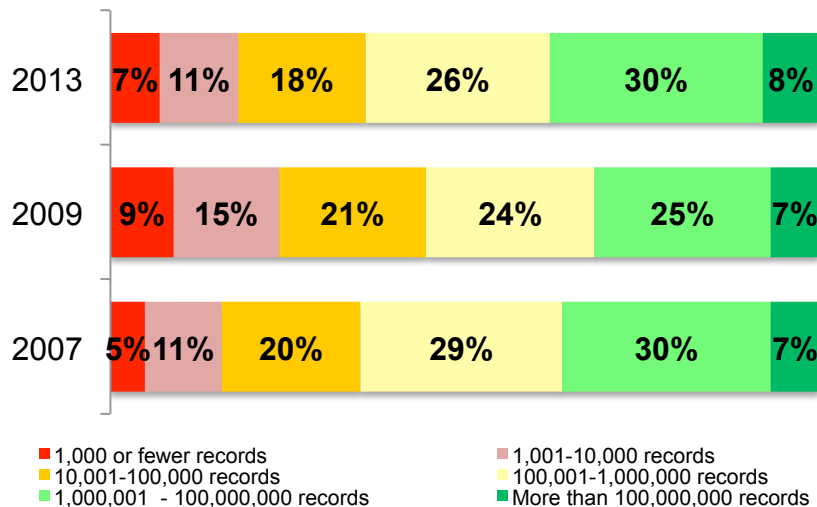
In 2013, the general perception among data miners is that data volumes have increased (72% say it has). However, the datasets they report using are of similar size to what was reported in 2007. Additionally, only 13% report that their company has an active big data program.

## 2013: Perception of Data Size Increase



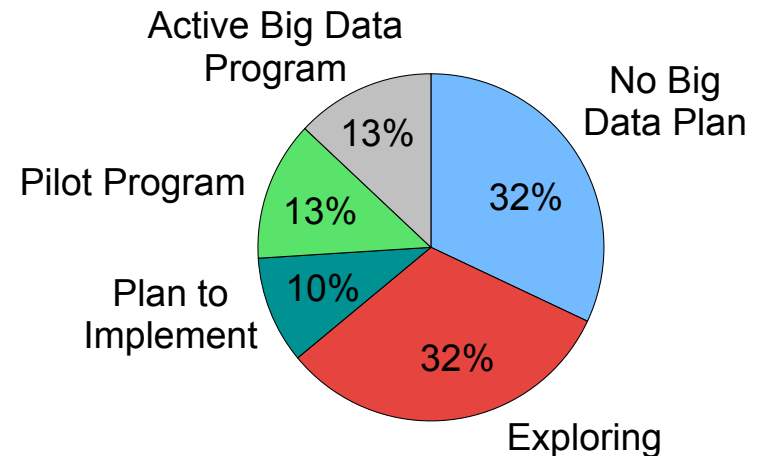
Question: Has the volume/size of data that you use in your analyses increased in the last two years?

## Typical Data Set Size



Question: What size data sets did you typically data mine in the past year?

## 2013: Your Company's Big Data Plan

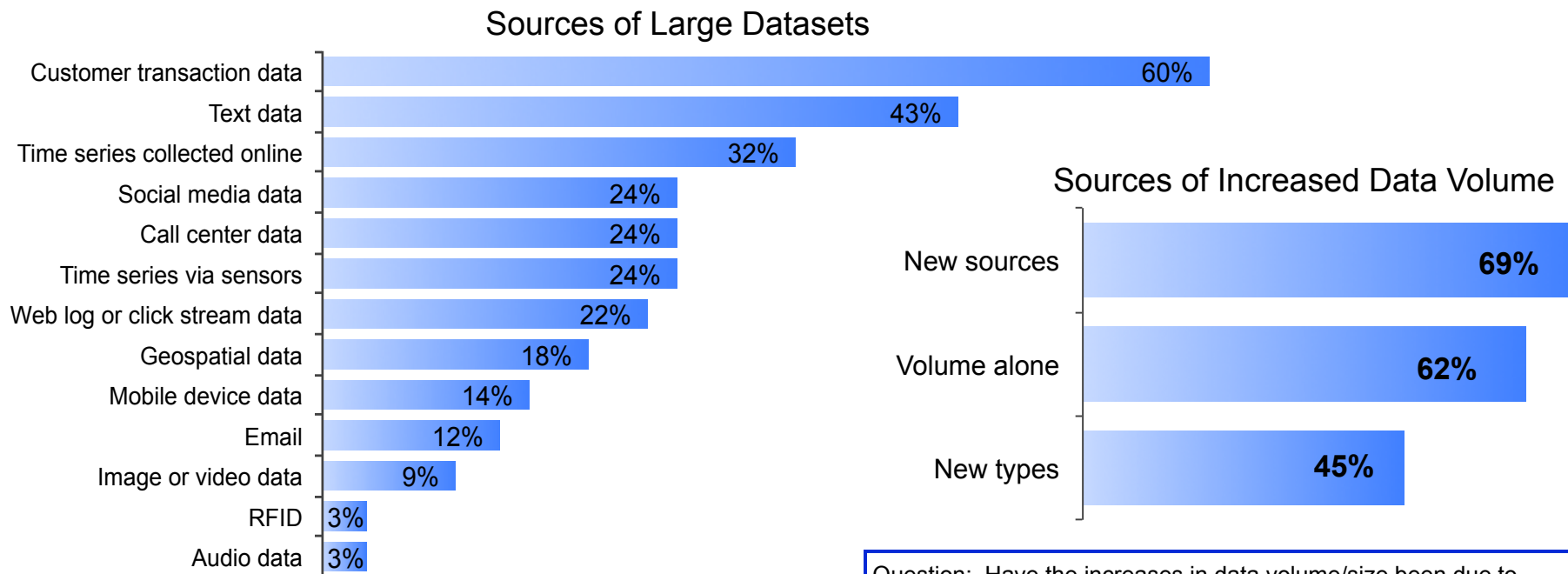


Question: What is your company / organization doing with regards to Big Data?

# Where is Big Data Coming From?

Subjectively, 72% of data miners feel they are experiencing an increase in data. They report that their large data is coming from a variety of sources – the most frequently reported sources are customer transactions and text data.

Sixty-nine percent of these data miners report that their Big Data is from new sources, and close to half (45%) report new types of data, indicating that the composition of Big Data is not just an increase in data volume from their standard sources.



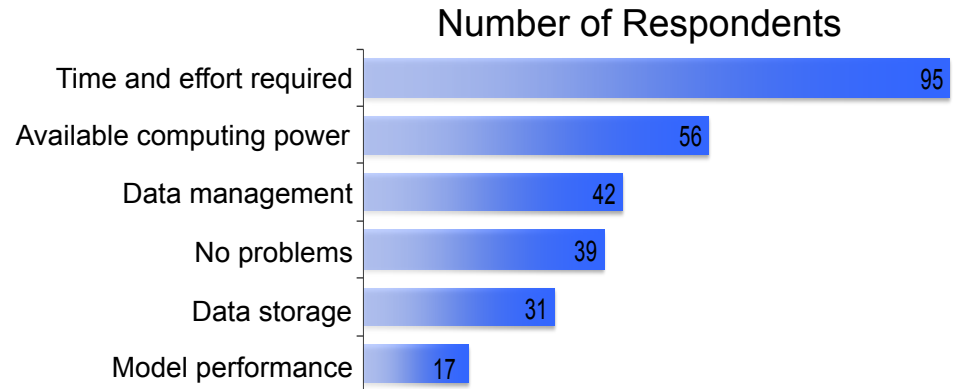
Question: What are the sources of data for your large datasets? (select all that apply)

Question: Have the increases in data volume/size been due to increases in data of the same type that you've previously worked with, or has the increase in data volume / size been due to the addition of data from new sources or the addition of data of new types?

# Challenges Presented by Big Data and Their Solutions

## Problems

Regardless of whether Big Data is a new or more longstanding phenomenon, there are inherent challenges in working with large data sets. Respondents shared their ideas about the challenges presented by big data (in an open-ended survey question). The most frequently identified challenges were time and effort, available computing power, and data management.

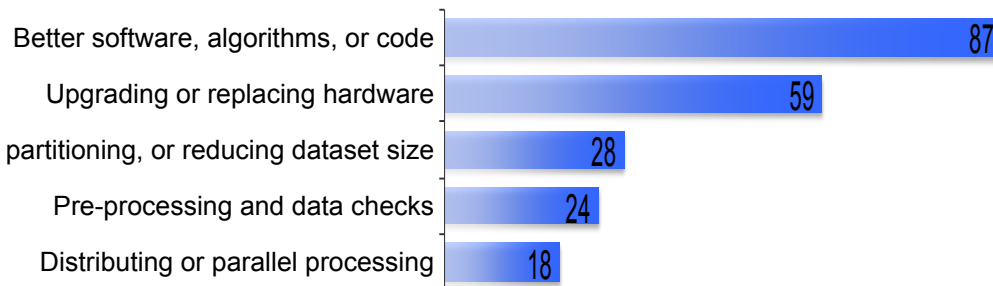


Question: What new challenges does the increasing size of your datasets pose to your analyses? (open-end response)

## Number of Respondents

## Solutions

Respondents also shared their solutions to big data challenges. Better software or algorithms, upgrading hardware, and sampling were the most frequently cited solutions.



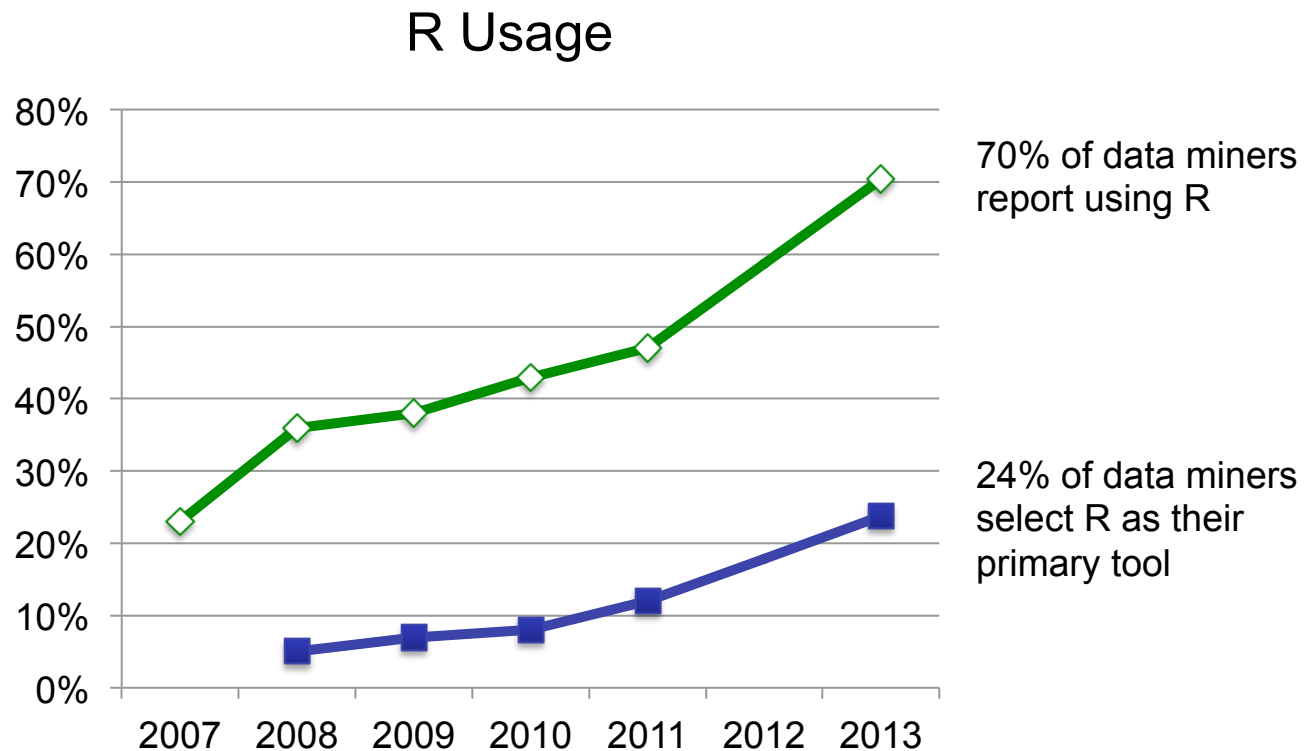
Question: How are you overcoming these challenges?



# **The Ascendance of R**

# The Popularity of R Software is Skyrocketing

The proportion of data miners using R is rapidly growing, and since 2010, R has been the most-used data mining tool. While R is frequently used along with other tools, an increasing number of data miners also select R as their primary tool. Among data miners who say they are likely to switch their primary package in the coming year, R is frequently identified as the tool they are plan to switch to – more than 2.5 times more often that any other tool.



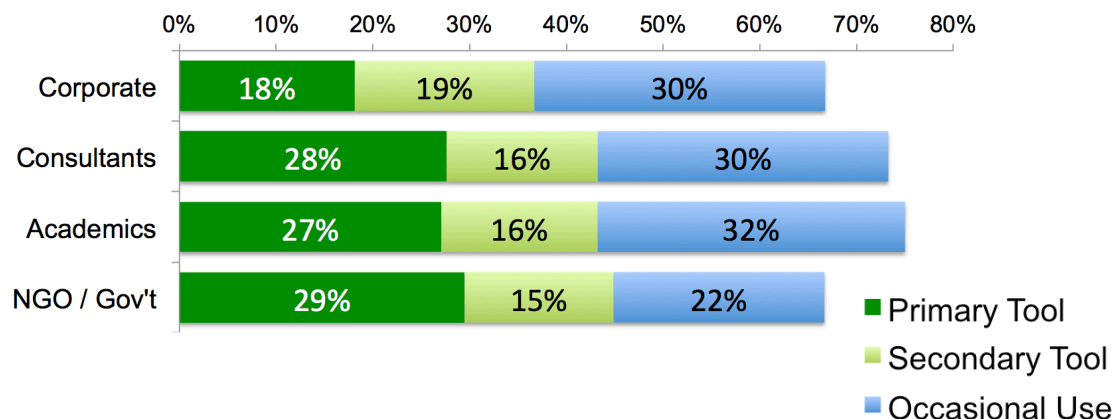
# Priorities and Characteristics of R Users

- While data miners overall consider quality and accuracy of model performance, dependability of software, and data manipulation capabilities the most important factors when choosing a data mining tool, those using R as their primary tool identify the ability to write one's own code as their most important priority.

Important Factors in Selecting Software

R is primary tool	All data miners
#1: Ability to write own code	#1: Quality & accuracy of model performance
#2: Quality & accuracy of model performance	#2: Dependability of software
#3: Data manipulation capabilities	#3: Data manipulation capabilities

- The quality of the user interface was rated as significantly less important by primary R users than by other data miners.
- Interestingly, there was no difference in the stated importance of cost of tool between those using R as their primary package and others. However, primary R users are more satisfied than other tool users with the cost of their software (see page 33). They are also more satisfied with the variety of available algorithms and the ability to modify algorithms to fine-tune analyses.
- While R is heavily used among data miners working in all settings, in corporate settings, a smaller proportion of data miners report that R is their primary tool.

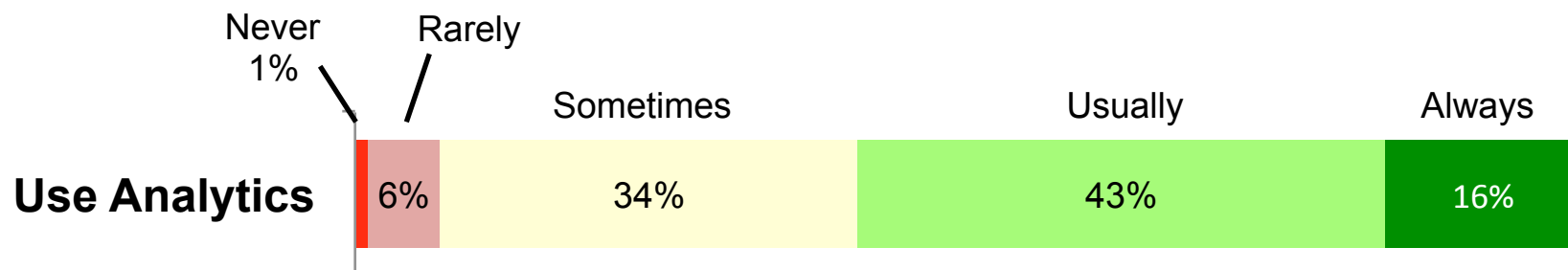


# Challenges in the Use of Analytics

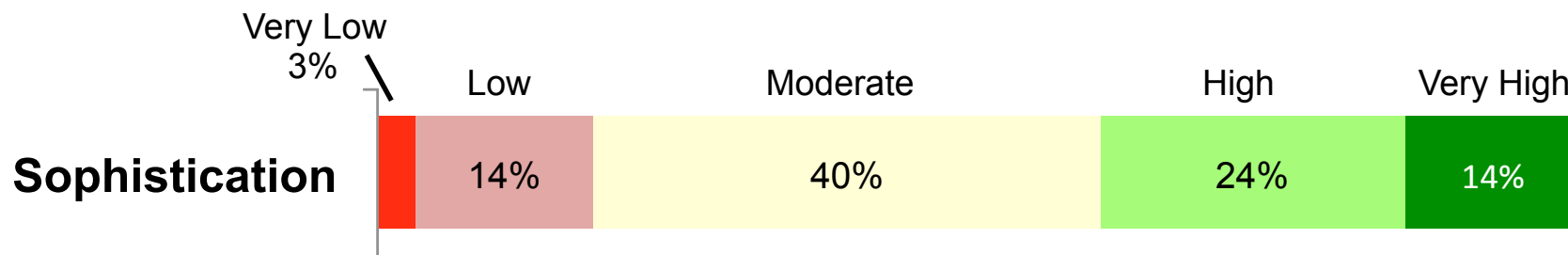
# Use of Analytics is Still Evolving

Only Corporate respondents are included in this analysis.

As in previous years, data miners report challenges at each level of the analytic process. Companies often are not using analytics to their fullest and have continuing issues in the areas of deployment and performance measurement. Only 16% of companies always use analytics to address appropriate questions and 7% rarely or never do. Additionally, corporate analytic sophistication is only considered high or very high by 38% of respondents.



Question: When there are questions that can be addressed by analytics, how often does your company / organization use analytics to address them?

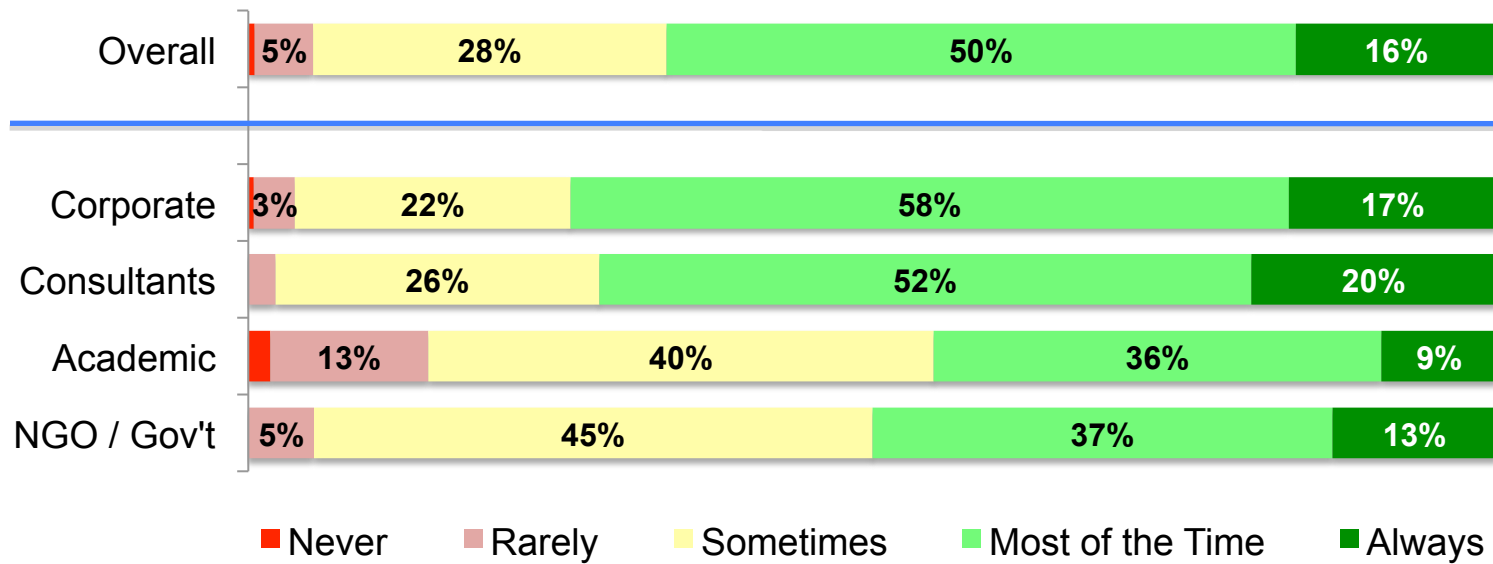


Question: In general, with what degree of sophistication does your company / organization approach analytic problems?

# Results of Analyses are Often Not Deployed

There is perhaps no greater frustration for data miners than seeing their hard work get sidelined. While most data miners report that the results of their analyses are being deployed most or all of the time, a third say that they are only deployed sometimes or rarely – these data miners also have substantially lower job satisfaction. Those in academic, NGO and Government settings report even less frequent deployment than those working for a company or in a consulting capacity.

Frequency of Deployment



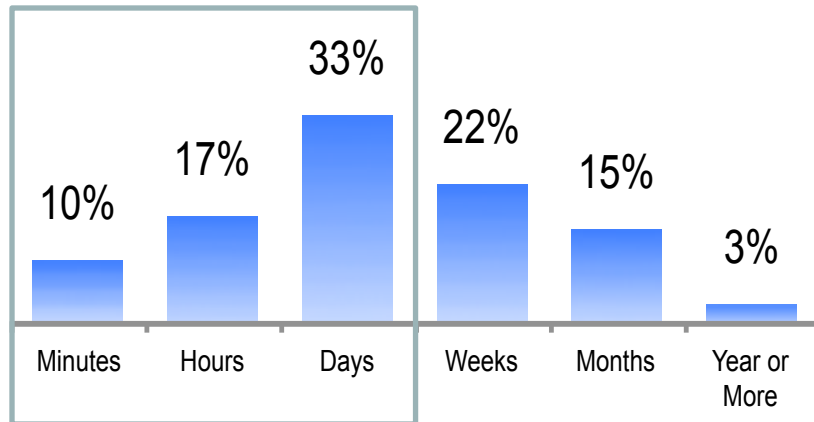
Question: How often are results of your analytics deployed and/or utilized?



# Time to Analyze and Deploy Varies

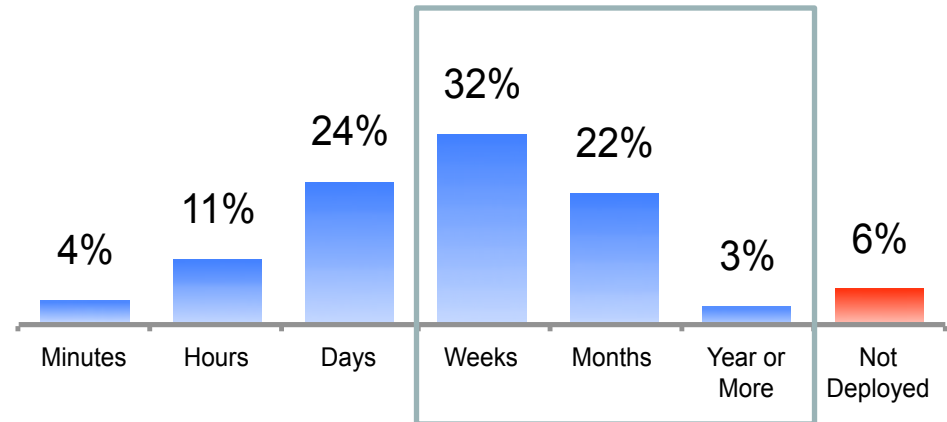
Gaps between final models and utilization plague many projects. While six in ten data miners report that data is available to them for analysis within days of capture, deployment takes substantially longer, with nearly six in ten respondents estimating weeks to over a year between analysis and deployment.

## Time to Data Analysis



Question: What is the typical lag time between when your data is captured / created and when it becomes available to you for inclusion in your analyses?

## Time to Deployment



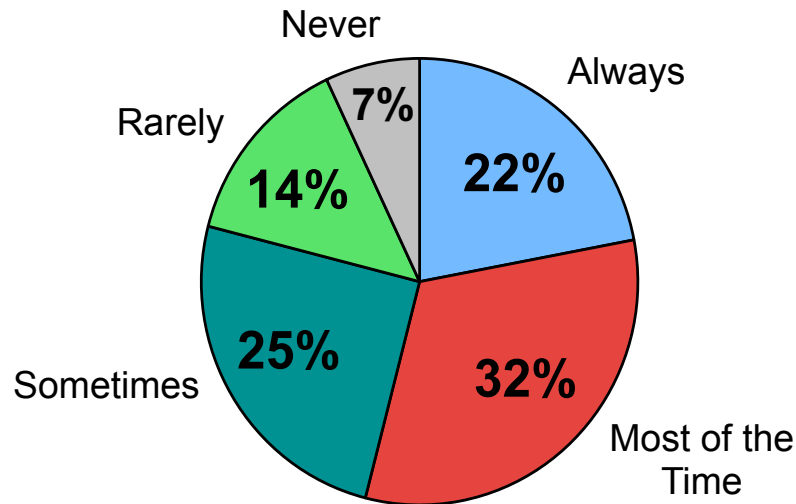
Question: What is the typical lag time between when your analyses are completed and when they are deployed / used?

# Measuring Performance and Updating Analyses

One of the most puzzling aspects of model deployment is how often organizations fail to follow-up to determine whether models have been effective. Only about half of data miners report that their organization reliably measure analytic performance (most of the time or always). And 21% report that their organizations rarely or never measure the performance of their analytic initiatives.

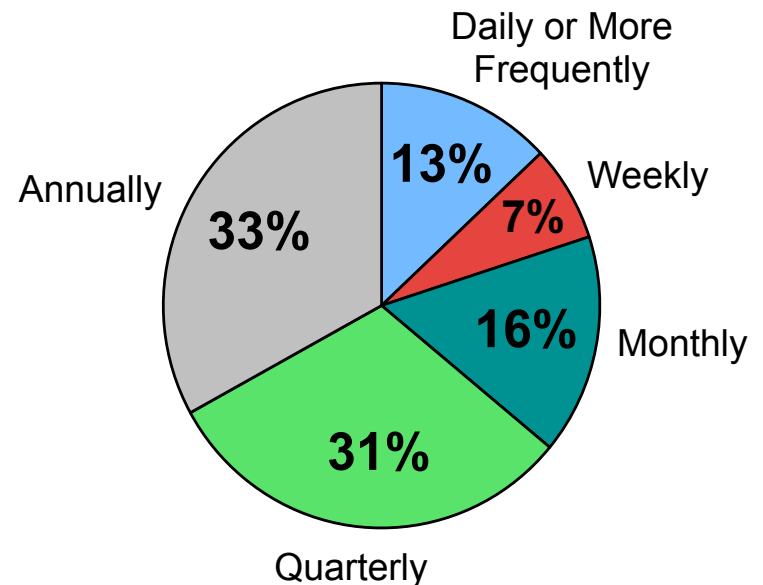
Without reliable performance measurement, it's tough for organizations to know when to update their models. The majority (64%) of data miners report that their organizations typically update models quarterly or annually. However, 13% report that their models are updated dynamically: daily or more frequently.

## Performance Measurement



Question: How often does your company / organization measure the performance of analytic projects? (e.g., accuracy of model predictions, ROI, or other success measurements)

## Model Updating



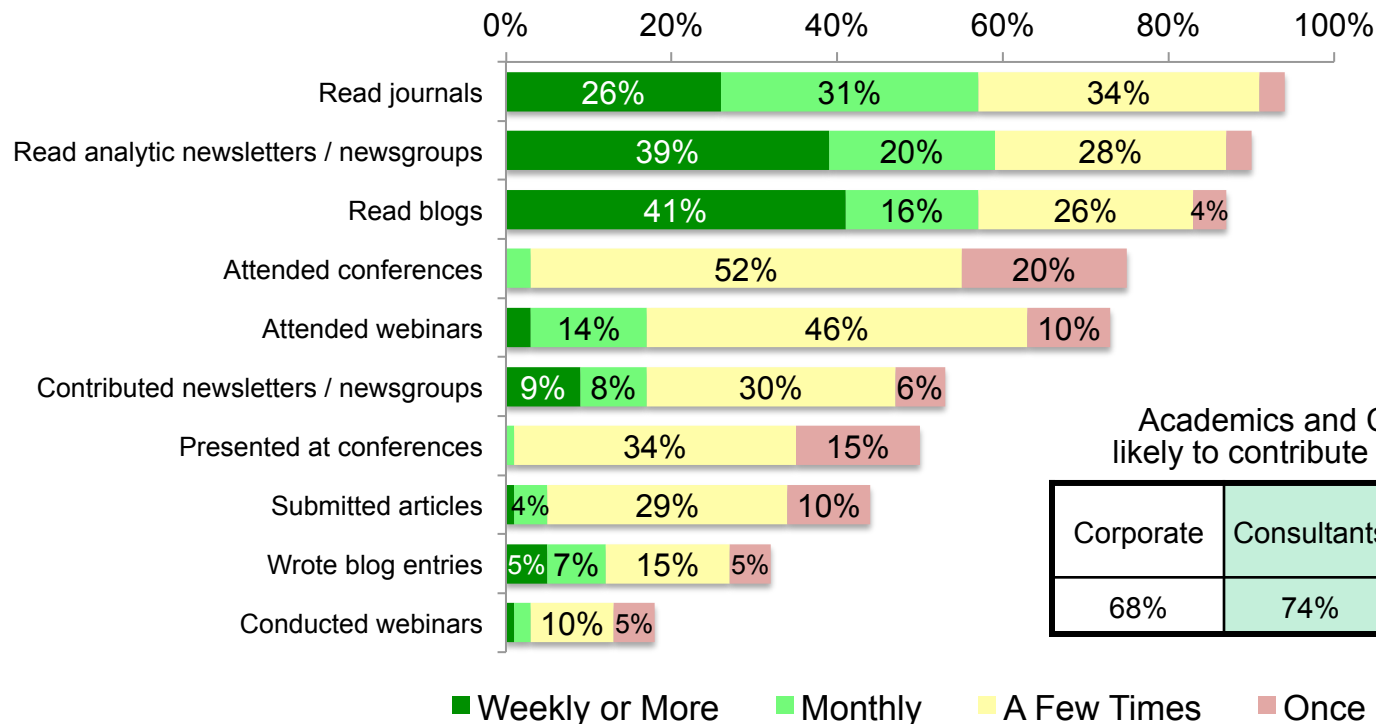
Question: How frequently are models typically updated in your organization?

# **Engagement & Job Satisfaction**

# Engagement with the Analytic Community

The Data Miners in our survey are highly engaged with the analytic community, consuming and producing content, entering competitions and searching for education and growth within their jobs. All of these activities lead to high job satisfaction, which has been increasing over time.

Data Miners are most likely to read journals, newsletters, and blogs to stay informed. More than half (56%) engage in at least one of these three activities at least weekly. They are least likely to conduct webinars or write blog entries. Additionally, an impressive 73% actively contributed to the knowledge base at least once in the past year by conducting webinars, writing blog entries, contributing to newsletters or newsgroups, submitting articles, or presenting at conferences.



Academics and Consultants are more likely to contribute to the knowledge base

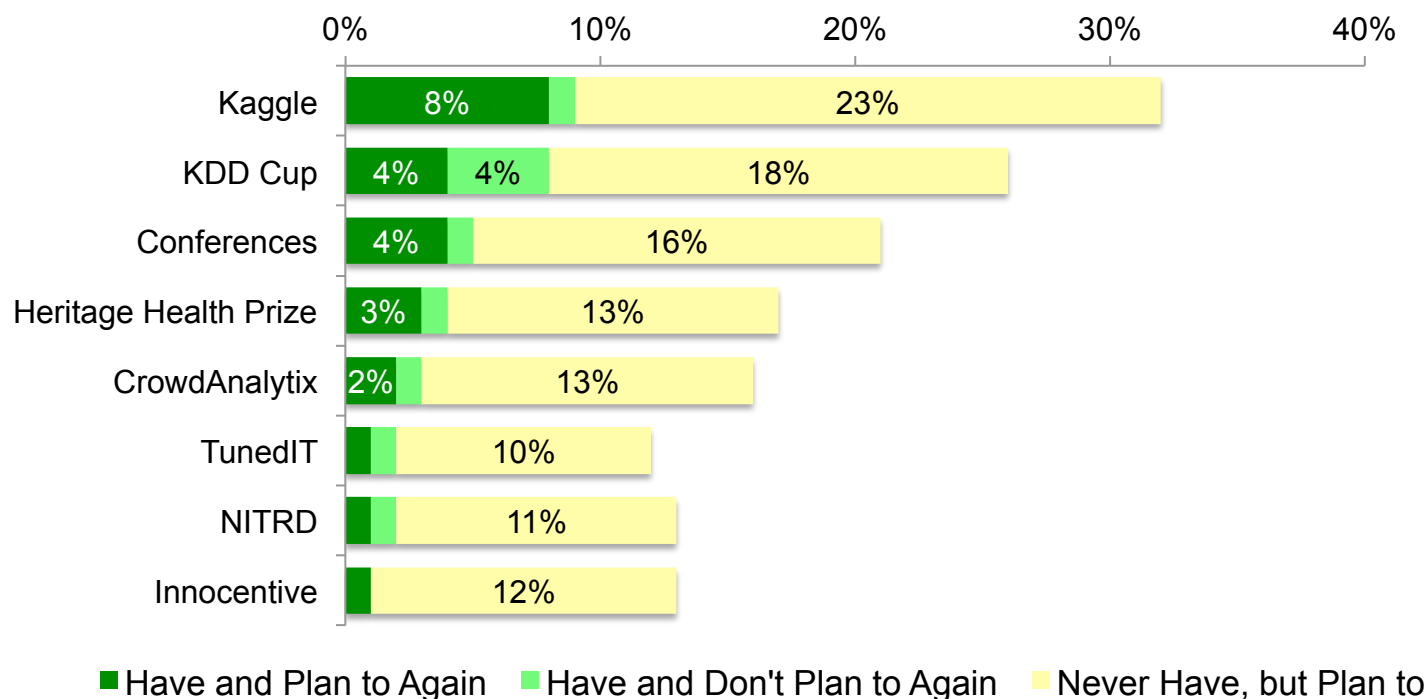
Corporate	Consultants	Academic	NGO / Gov't
68%	74%	86%	67%

Question: How often in the past year have you participated in the following activities to stay informed and connect with other data miners?

# Data Mining Competitions

Many members of the data mining community have either engaged in the knowledge sharing and creative enterprise of competitions or have plans to. Fifteen percent of respondents have participated in at least one data mining competition (with the average number of competitions among those who participate being two).

Kaggle and the KDD Cup are the two competitions with the highest participation. Additionally, 31% of data miners intend to participate in upcoming Kaggle competitions (8% already have, and plan to again, and 23% have yet to compete, but plan to).



Question: Which statement best describes your background and plans regarding data mining/analytic competitions? (Have competed and plan to again, Have competed but do not plan to again, Never competed but plan to in the future, Never competed and do not plan to)

# Job Satisfaction & Demand for Data Miners are High

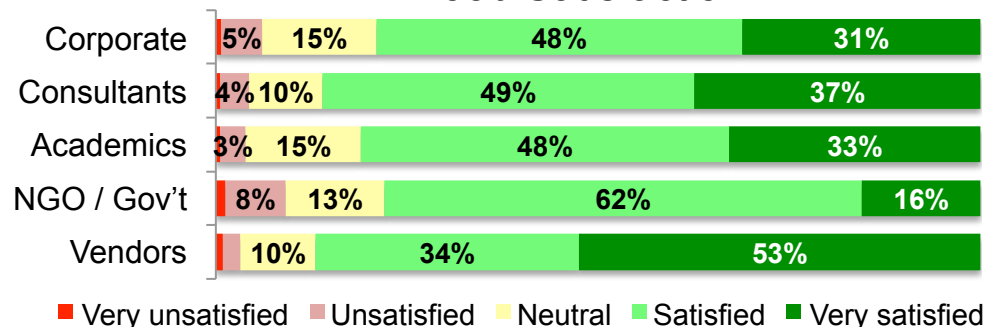
Vendors are included in this analysis.

Data mining has proven to be a fulfilling career for many practitioners. Overall, 36% report being “very satisfied” with their jobs and very few report dissatisfaction. Satisfaction has also increased since 2011. A notable pocket of greater satisfaction is among data miners working for companies that make data mining software – 53% report being “very satisfied.”

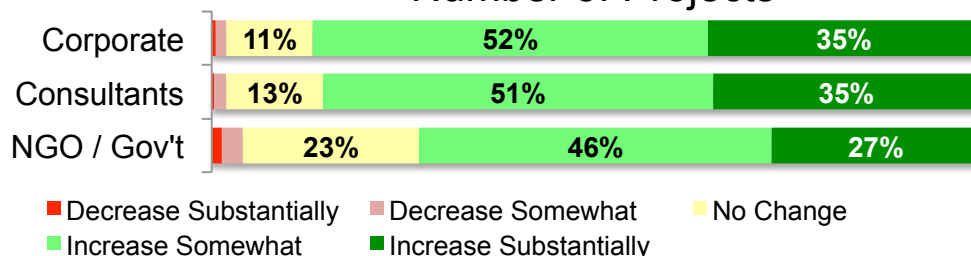
Data miners are also in demand. The majority report that their companies are doing more projects and increasing the size of their analytic staff.

Overall, individuals reporting the most growth also report higher satisfaction. Data miners working in NGO/Government settings report less growth – and fewer data miners working in these settings report being “very satisfied.”

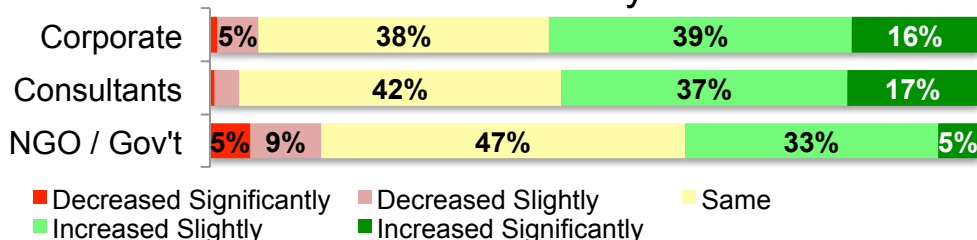
## Job Satisfaction



## Number of Projects



## Size of Analytic Staff



Question: What is your current level of job satisfaction?

Question: How will the number of data mining projects your organization conducts this year compare to what has been typical in the past few years?

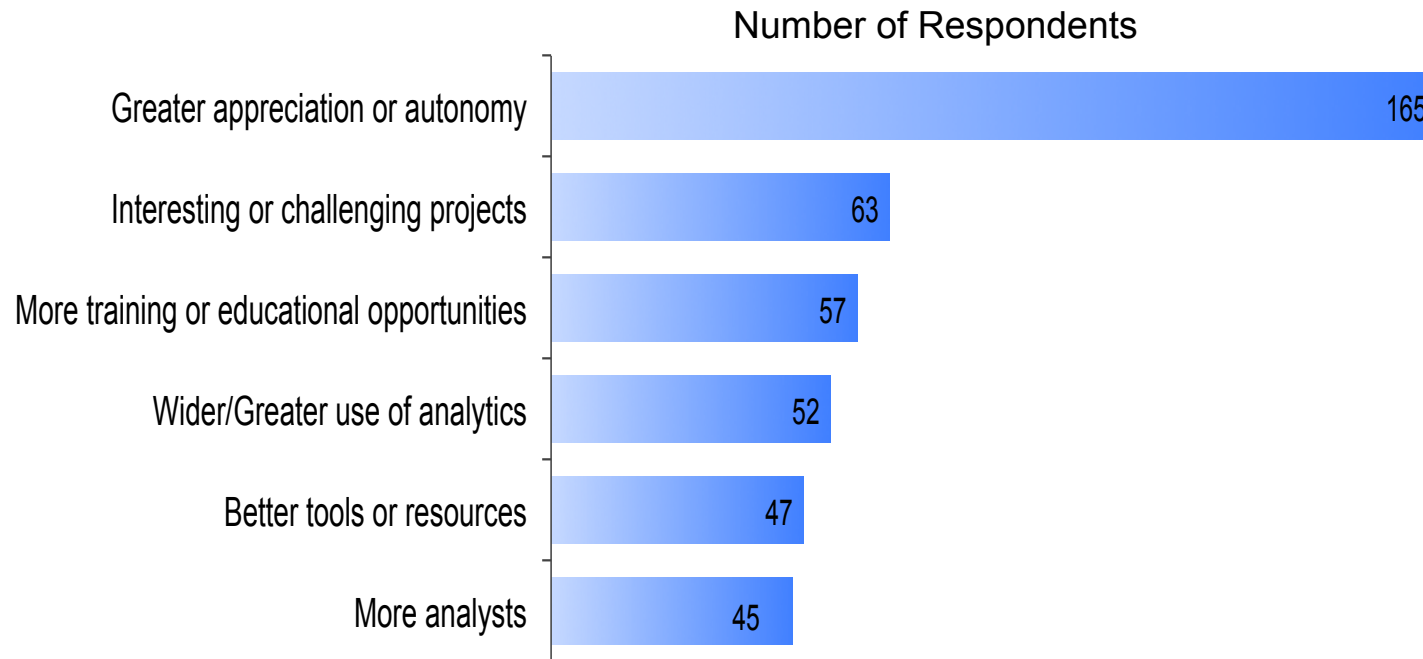
Question: How has the size of your organization's analytic staff changed over the past year?



# Ways to Increase Job Satisfaction

Vendors are included in this analysis.

Despite the high satisfaction rates, data miners are able to identify several ways their job satisfaction can be increased (other than being paid more). The number one way: greater appreciation by management or clients and greater autonomy while working on analytic projects. Interesting projects, educational opportunities, and expansion of analytics are also cited by a number of respondents as ways to enhance job satisfaction.



Question: Other than being paid more, what one thing would increase your satisfaction with your job?

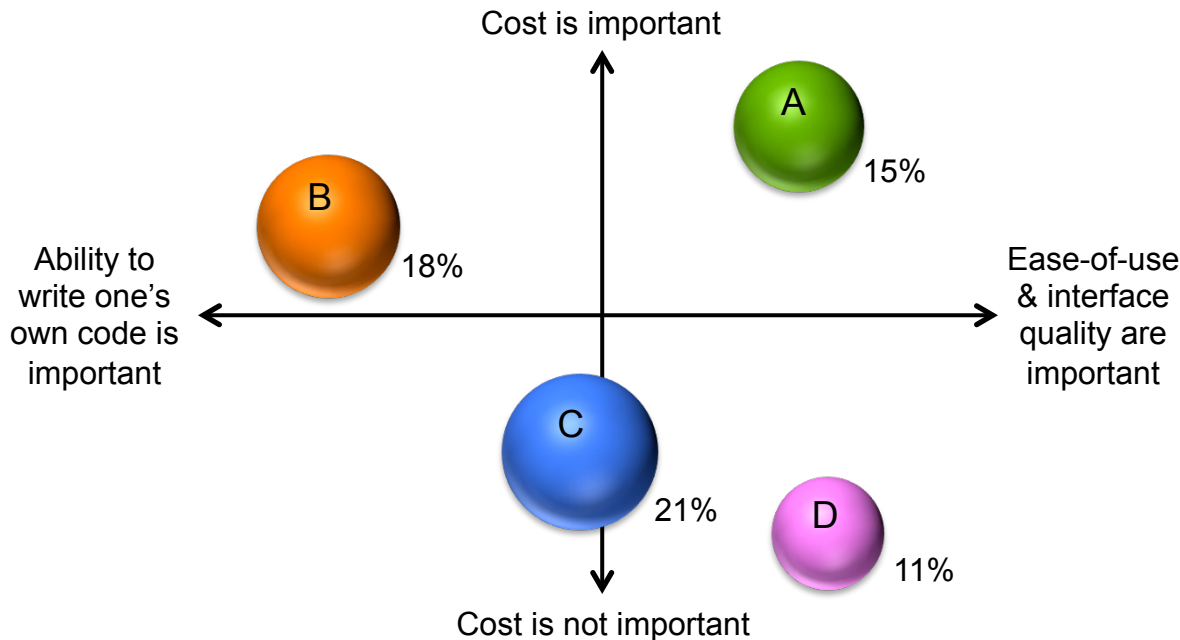
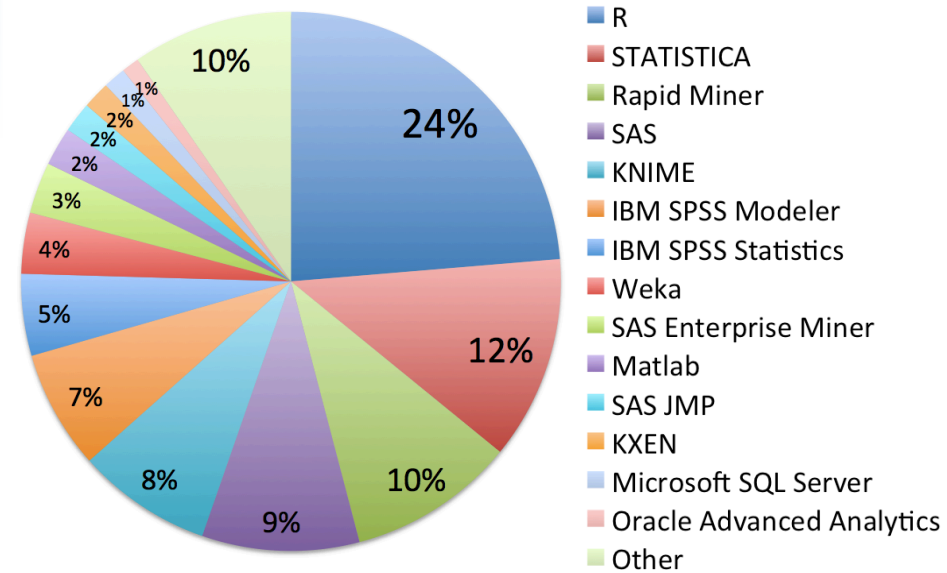
# **Analytic Software**

# Tool Selection

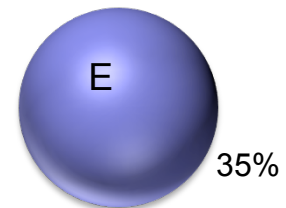
Data miners are a diverse group who are looking for different things from their data mining tools. They report using multiple tools to meet their analytic needs, and even the most popular tool is identified as their primary tool by just 24% of data miners. Over the years, R and Rapid Miner have shown substantial increases.

Cluster analysis\* reveals that, in their tool-selection preferences, data miners fall into 5 groups. The primary dimensions that distinguish them are price sensitivity and code-writing / interface / ease-of-use preferences.

Primary Analytic Tool



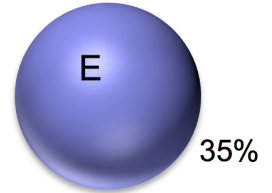
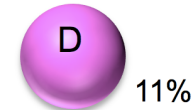
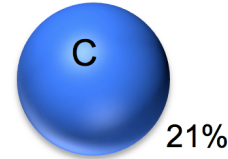
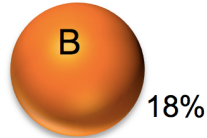
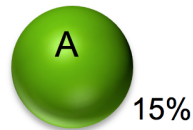
Everything is important



\*Cluster analysis was conducted on data miners' ratings of the importance of 22 tool selection factors.

# Tool Selection Groups

More information about the 5 groups of data miners identified on the previous page:

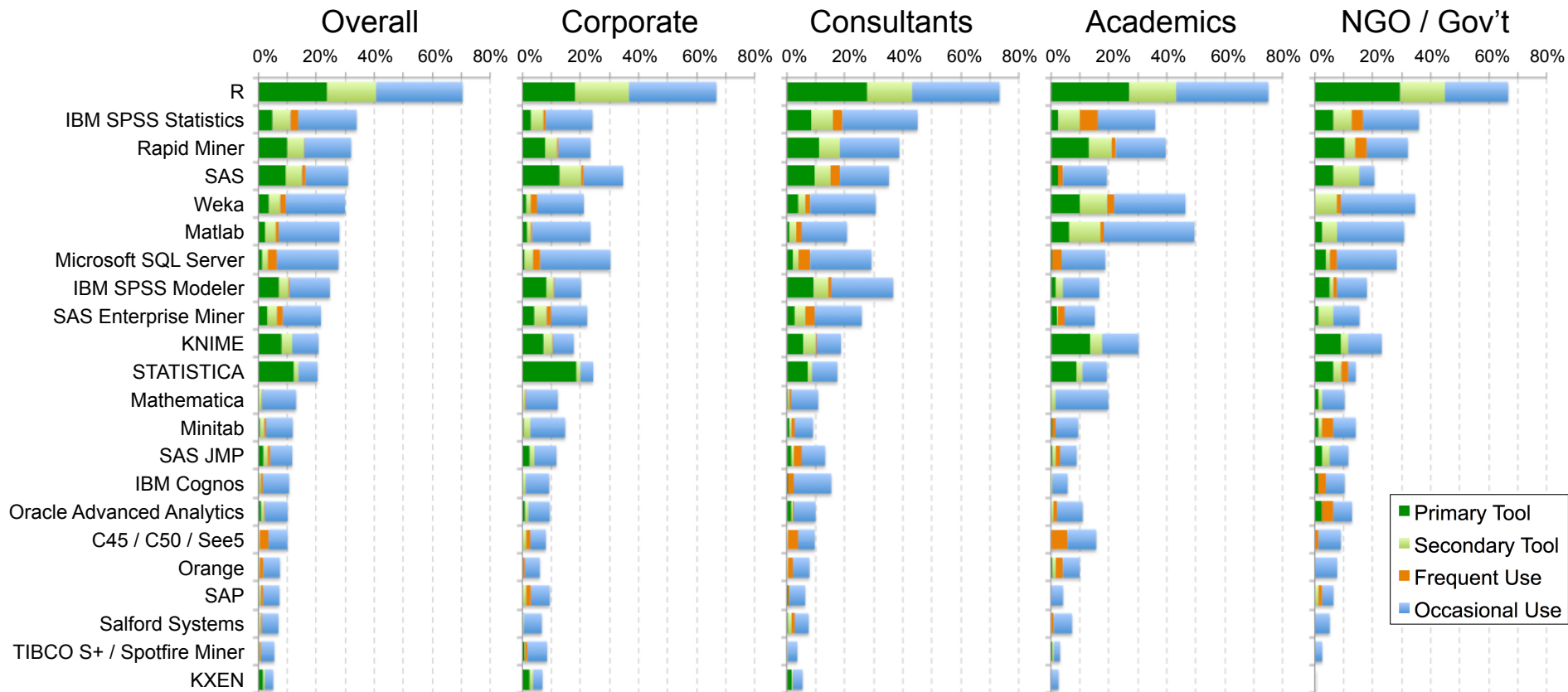


Importance of cost	Very high	High	Moderate	Low / Moderate	Very high
Importance of ease-of-use	High	Low / Moderate	Moderate	High	Very high
Importance of user interface quality	High	Low	High	Very high	Very high
Importance of ability to write one's own code	Low	Very high	High	Low	High
Primary tools	Rapid Miner (26%) IBM Modeler (12%) KNIME (11%)	R (56%) SAS (10%)	R (26%) SAS (19%)	STATISTICA (31%) IBM Modeler (20%) Rapid Miner (12%)	R (19%) STATISTICA (16%) KNIME (10%) Rapid Miner (10%)
Tool use	R (62%) Rapid Miner (50%) IBM Statistics (40%) IBM Modeler (36%) Weka (33%)	R (90%) Weka (37%) SAS (33%) Matlab (31%)	R (73%) SAS (43%) IBM Statistics (35%) Matlab (32%) SQL Server (32%) SAS-EM (32%)	R (51%) IBM Statistics (38%) STATISTICA (37%) IBM Modeler (32%)	R (73%) IBM Statistics (35%) Rapid Miner (34%) Weka (32%) SQL Server (30%) SAS (30%)
Working with Big Data	---	---	---	Less Likely	More Likely
Experience (years)	Many new data miners	Few new data miners	---	Many new data miners	Many experienced data miners

# Tool Use Varies by Employment Setting

R, IBM SPSS Statistics, Rapid Miner, and SAS are the software tools used by the most data miners. The average data miner reports using 5 tools, but conducts 76% of their work in their primary tool. R, STATISTICA, Rapid Miner, and SAS are the primary data mining tools chosen most often. 64% of data miners also report writing their own code – the most common language is SQL (43%), followed by Java (26%) and Python (24%).

The graphs below summarize the patterns of primary tool selection and overall tool usage, which vary by the setting in which data miners work – e.g., academics are heavier users of Weka and Matlab.



What Data mining / analytic tools did you use in the past year? (rate each as "never", "occasionally", or "frequently")

What one data mining / analytic software package do you use most frequently in the past year?

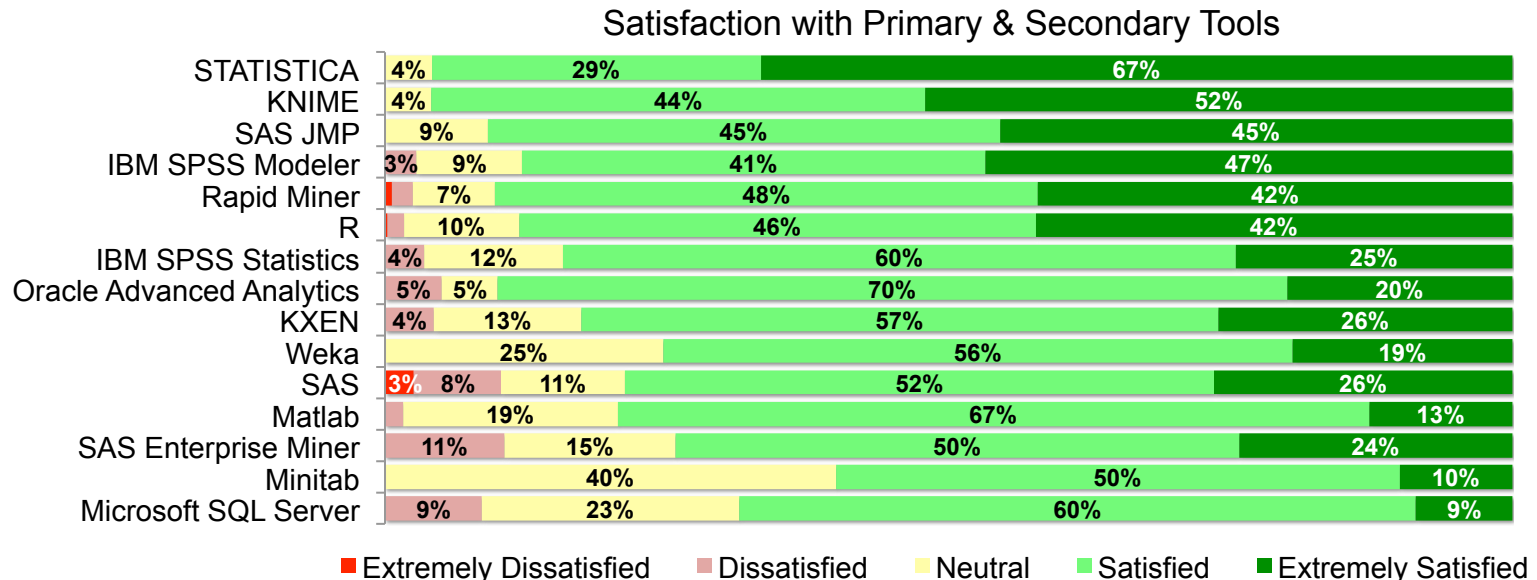
If you regularly used multiple data mining packages in the past year, please identify the package that you used second most.



# Tool Satisfaction

Most data miners are happy with their analytic software. STATISTICA and KNIME have particularly high satisfaction ratings (they also had the highest ratings in the 2011 survey). SAS JMP, IBM SPSS Modeler, Rapid Miner and R also have high ratings. While people are more satisfied with their primary tools, the patterns of primary and secondary tool satisfaction are generally similar. However, people choosing IBM SPSS Statistics as their secondary tool give it high ratings, while people using SAS Enterprise Miner and IBM SPSS Modeler as their secondary tools give these tools lower ratings.

Most people also report that they will continue using their primary tools – the highest continuation rate is among people choosing KNIME as their primary tool: 85% report that they are “extremely likely” to continue using it as their primary tool for the next 3 years. R and STATISTICA users also report especially high continuation plans. Across all tools, when people say they are likely to switch primary tools, many are choosing R (see page 16).



Satisfaction question: Please rate your overall satisfaction with [insert name of previously identified software package].



# Tool Satisfaction: Details

Overall, data miners express the most satisfaction with the quality and accuracy of their tools' model performance and with the variety of algorithms their tools make available to them. Data miners are least satisfied with their tools' help functions, their graphical visualization of models, and their ability to handle large data sets. STATISTICA received strong ratings across many dimensions.

	Overall	IBM SPSS Statistics	IBM SPSS Modeler	KNIME	R	Rapid Miner	SAS	SAS Enterprise Miner	STATISTICA	Weka
Quality and accuracy of model performance	4.28	3.96	4.15	4.30	4.39	4.25	4.20	4.48	4.62	4.16
Variety of available algorithms	4.27	3.66	4.05	4.36	4.74	4.55	3.91	4.23	4.59	4.46
Data manipulation capabilities	4.19	3.91	4.36	4.54	4.24	4.07	4.50	3.74	4.52	3.48
Dependability/Stability of software	4.19	4.02	3.96	4.27	4.24	4.07	4.28	4.16	4.51	4.03
Ability to automate repetitive tasks	4.18	3.79	3.76	4.42	4.35	4.18	4.26	4.10	4.44	3.76
Quality of output / Ease of interpretation	4.11	3.87	3.89	4.17	4.10	4.18	3.84	4.10	4.59	3.82
Ease of use	4.11	4.10	4.67	4.58	3.59	4.39	3.77	4.27	4.58	4.03
Good metrics of model quality	4.08	3.72	3.89	3.91	4.19	4.17	4.01	4.17	4.50	4.06
Data quality assessment & data preparation capabilities	4.05	3.72	4.27	4.37	4.02	4.00	4.26	3.77	4.41	3.47
Ability to easily incorporate data at different levels of granularity (e.g. transaction data and customer data)	4.03	3.87	4.25	4.21	3.94	4.04	4.14	4.10	4.30	3.59
Cost of software	4.03	3.02	2.89	4.85	4.93	4.86	2.33	2.70	3.91	4.89
Ability to modify algorithm options to fine-tune analyses	4.01	3.26	3.63	3.80	4.35	4.10	3.91	3.94	4.28	4.18
Good variable discovery, profiling and selection	4.00	3.64	4.16	4.07	4.03	4.06	3.78	4.23	4.42	3.77
Quality of user interface	3.97	4.02	4.47	4.54	3.49	4.37	3.66	4.10	4.53	3.54
Ease of model deployment (scoring to other data sets)	3.97	3.42	4.01	4.21	3.87	4.19	3.92	4.00	4.43	3.75
Speed	3.95	3.62	4.01	4.00	3.69	3.95	3.93	3.97	4.54	3.70
Enables mining within one's database	3.92	3.59	4.18	4.08	3.92	3.83	3.78	3.93	4.26	3.69
Ability to handle very large data sets	3.84	3.65	4.19	3.90	3.27	3.59	4.35	4.30	4.56	3.18
Strong graphical visualization of models	3.83	2.94	3.60	3.90	4.14	4.01	3.09	3.77	4.58	3.38
Useful help menu, demos and tutorials	3.82	3.87	3.82	4.05	3.86	3.54	3.67	3.90	4.23	3.50

Mean satisfaction rating on 1-5 scale

 Higher Satisfaction

 Lower Satisfaction

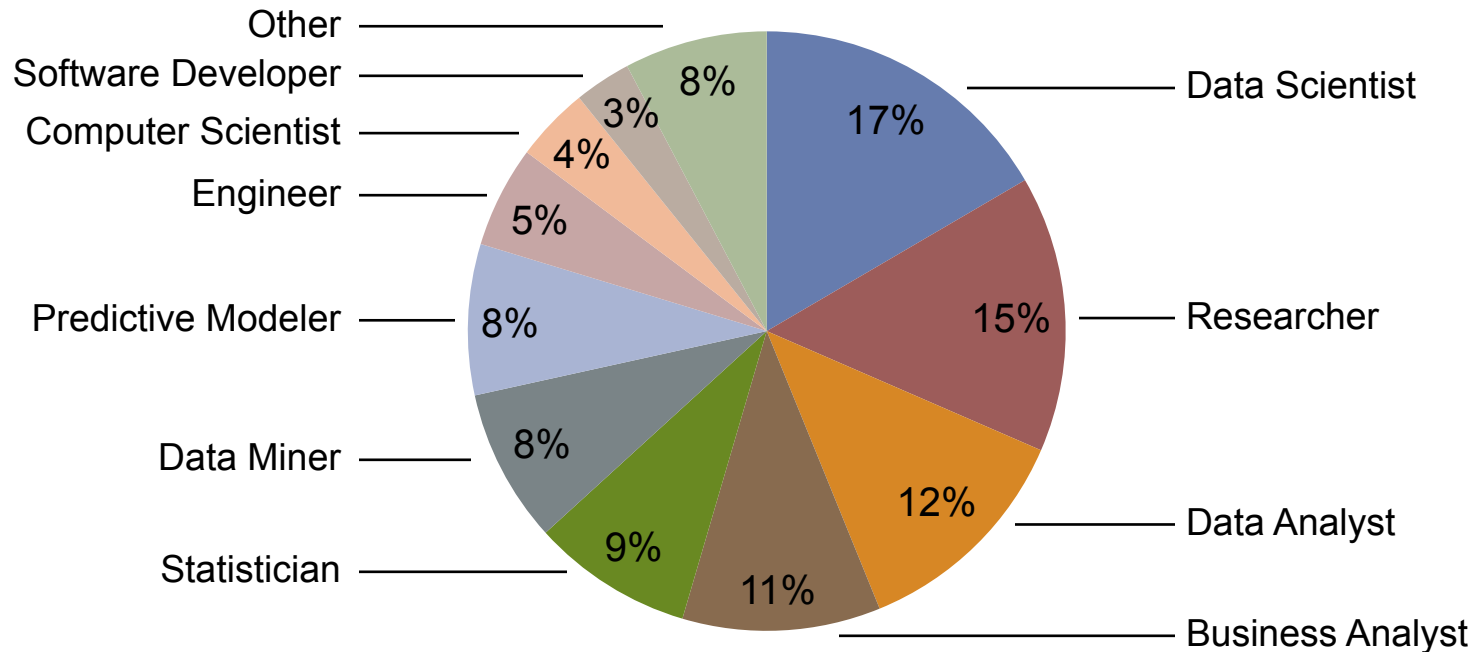
Question: Rate how satisfied you are with the performance of your primary data mining package (identified earlier) on each of these factors.

# Other Findings

# Many Names for Analytic Professionals

Vendors are included in this analysis.

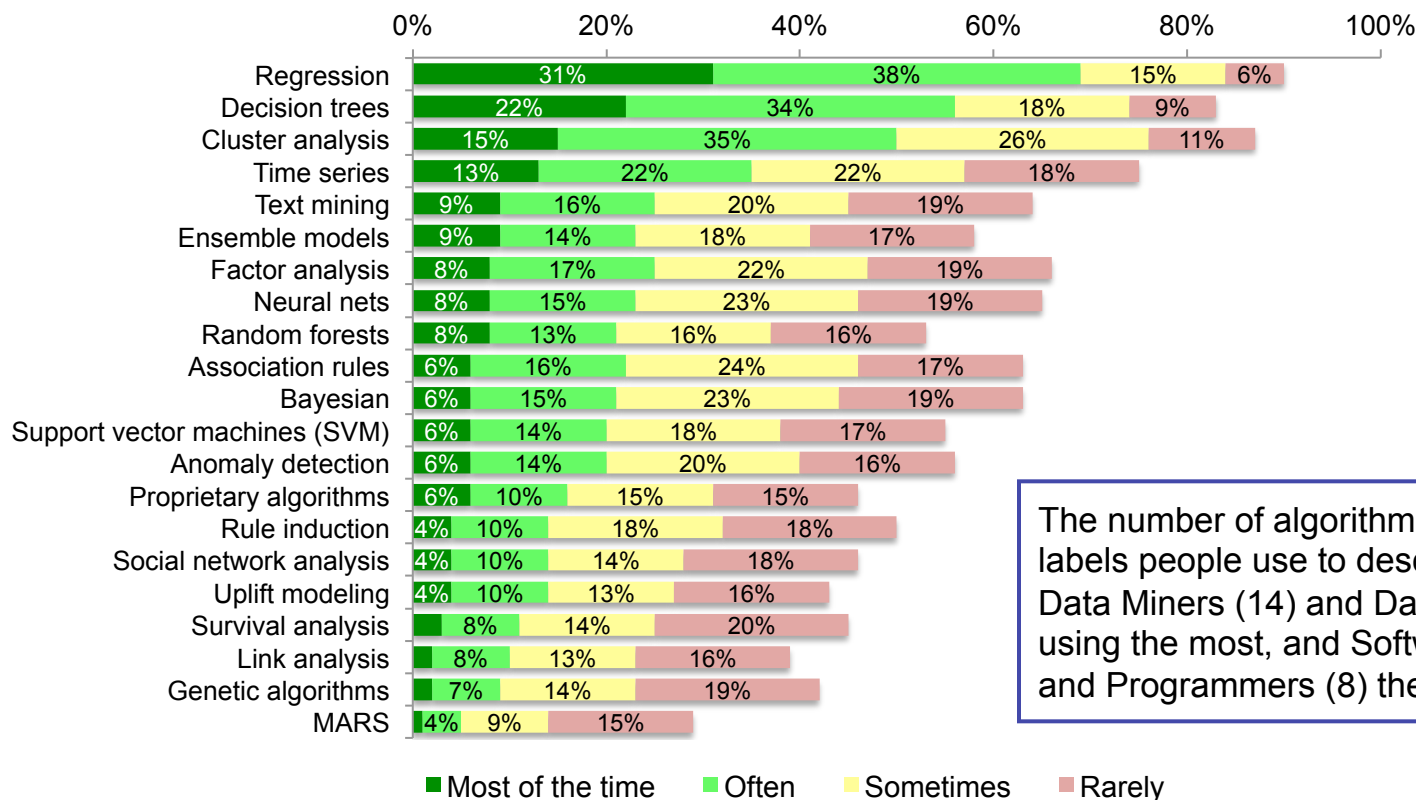
A variety of labels are used to describe analytic professionals. The most common descriptors chosen by survey respondents are Data Scientist, Researcher, Data Analyst, and Business Analyst.



Question: Which of the following do you primarily consider yourself to be?

# Algorithms

- Regression, decision trees, and cluster analysis continue to form a triad of core algorithms for most data miners. This has been consistent since the first Data Miner Survey in 2007.
- The average respondent reports typically using 12 algorithms. People with more years of experience use more algorithms, and consultants use more algorithms (13) than people working in other settings (11).



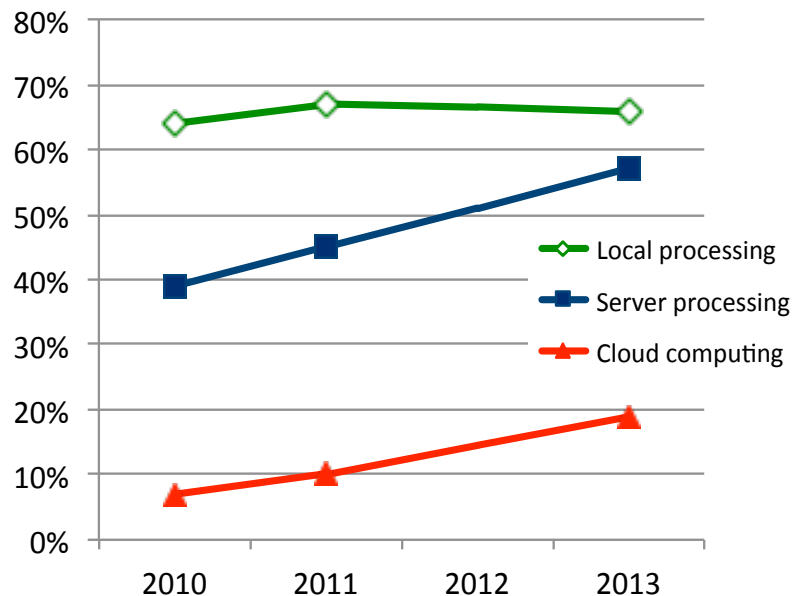
The number of algorithms used varies by the labels people use to describe themselves, with Data Miners (14) and Data Scientists (14) using the most, and Software Developers (9) and Programmers (8) the fewest.

Question: What algorithms / analytic methods do you TYPICALLY use? (Select all that apply)

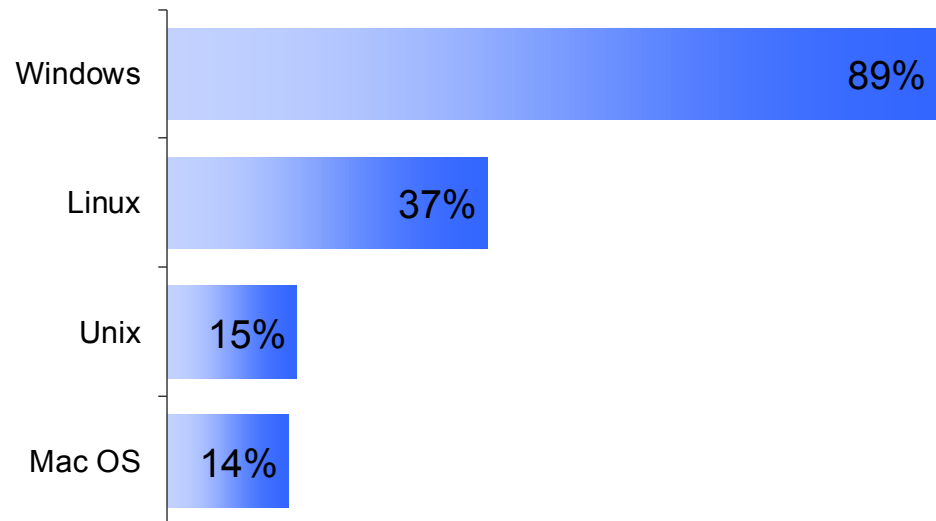
# Computing Environments

- There have been notable increases across the past four years in the use of servers (local or mainframe) and cloud computing for data mining. Meanwhile processing locally (on a desktop or laptop) has remained fairly constant.
- Windows is the most common operating system for analytics.

Computing Environment



Operating System



Question: What are the computing environments/platforms on which data mining/analytics occurs at your company/organization? (Check all that apply)

Question: What are the operating systems in which data mining/analytics occurs at your company/organization? (Check all that apply)

# **Appendix: Rexer Analytics**



# Rexer Analytics – Overview

## Company Summary

- Small privately held consulting firm
- Founded in 2002
- Focus: Analytic and CRM Consulting  
(applied statistics & data mining)

## Senior Staff

- Karl Rexer, PhD
- Paul Gearan
- Heather Allen, PhD

## Example Projects

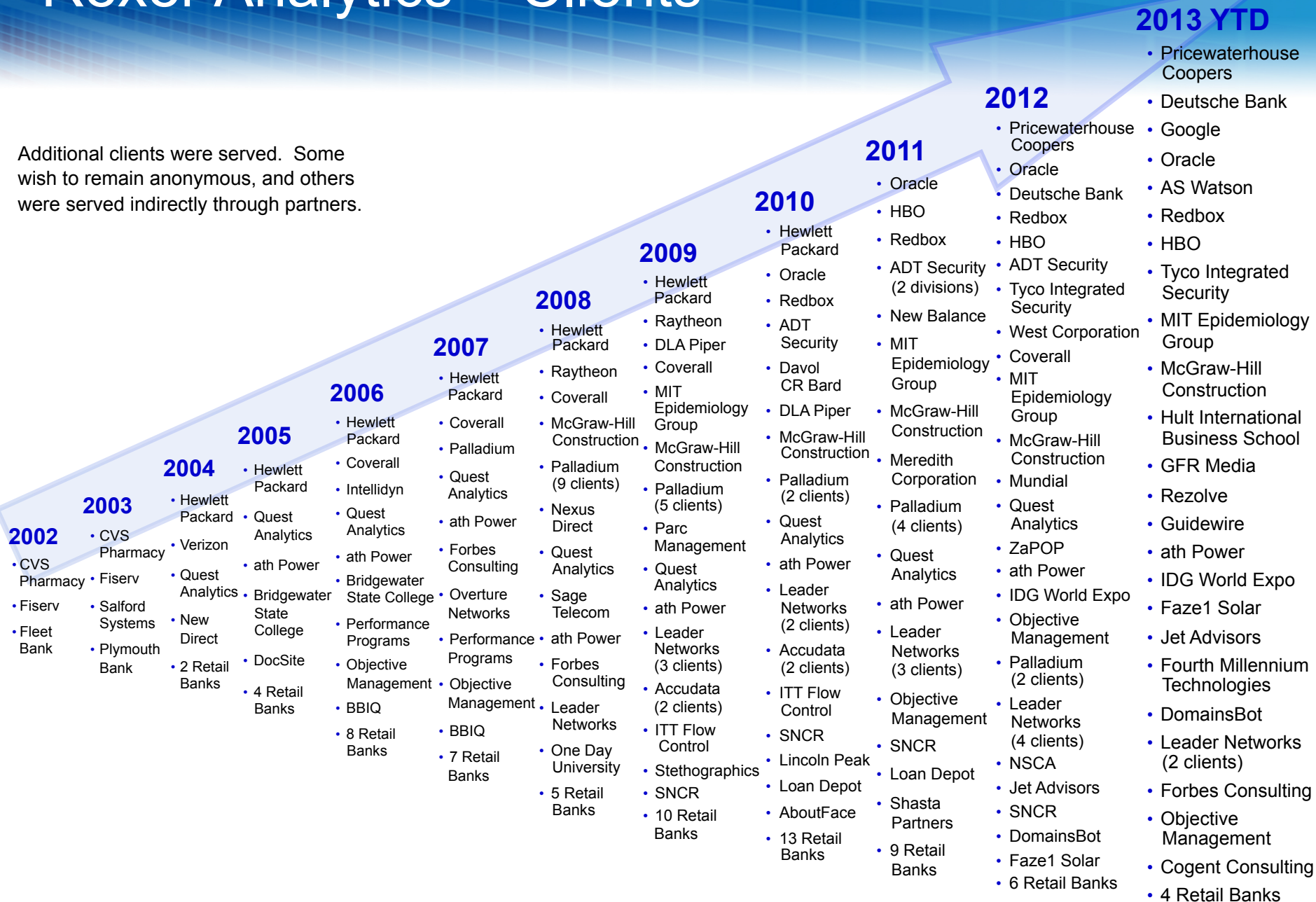
- Customer attrition analysis & prediction
- Student retention analysis & prediction
- Analytic CRM strategy
- Fraud detection
- Models to predict loan default
- Customer segmentation
- Sales forecasting
- Market basket analysis
- Product allocation optimization
- CRM metric design & measurement
- Predictive models for customer acquisition and cross-sell campaign targeting
- Survey research (to understand customer needs & customer decision making)

## Key Partners

- IBM (SPSS)
- Oracle
- Bernett Research
- Vlamis Software

# Rexer Analytics – Clients

Additional clients were served. Some wish to remain anonymous, and others were served indirectly through partners.



## Authors of the six Data Miner Surveys (2007-2013):

Heather Allen, PhD; Paul Gearan; & Karl Rexer, PhD

For more information contact:

Karl Rexer, PhD  
[krexer@RexerAnalytics.com](mailto:krexer@RexerAnalytics.com)  
617-233-8185

Rexer Analytics  
30 Vine Street  
Winchester, MA 01890  
USA

[www.RexerAnalytics.com](http://www.RexerAnalytics.com)