

Moving Forward with Data Analysis: Software Selection Guide

While data analysis tools have been around for more than 25 years, the rate of adoption is growing exponentially due to the amount of data auditors are required to analyze. The use of data analysis technology is part of a bigger movement to help auditors increase audit coverage, perform more thorough and consistent audits, and ultimately increase assurance levels. There are numerous technologies to choose from, and this guide offers some assistance in selecting the right professional-grade data analytics tools for your department. Follow the step-by-step process to narrow your choices, then complete the Software Selection Matrix.

Data Analysis Process *The components of a robust data analysis tool*

There are four key steps in using a data analytics tool: acquiring the data and importing it into the tool, performing the analysis, reviewing and reporting results, and automating repeatable tasks.

IMPORT



Unlimited data imports from virtually any source.

ANALYZE



Analyze every transaction for 100% data coverage.

REVIEW & REPORT



Share your results via charts, tables and graphics.

AUTOMATE



Automate repetitive tasks without coding.

Software Selection Road Map

The road map provides an overview of the 7 steps of the software selection process from assessing the organizational needs, to cost consideration and selection.

1 NEEDS ANALYSIS

A proper needs analysis should help identify gaps in the audit departments capabilities.

CONSIDERATIONS:

- Inventory staff skills and technology tools.
Staff may have prior experience with data analysis tools.
- Determine Information Policies & Standards
- Understand the approval process
- Integrate knowledge into your Strategic Planning Model

2 FINANCIAL FEASIBILITY

What Can You Afford?

Budget should not dictate which software is selected, but it may impact the rate of distribution, or slow the pace of the roll-out across your staff.

CONSIDERATIONS:

When you are examining the cost of a data analysis solution, consider the following in addition to your initial costs:

- Software maintenance, upgrades and ancillary programs
- Consulting work for data access or custom analysis
- Help Desk Support & training opportunities

Why Use Data Analytics?

- Increases audit efficiency and effectiveness
- Facilitates the collection and preparation of data
- Analyzes large amounts of data in seconds
- Prevents data corruption, manipulation or human errors
- Examines 100% of data, rather than a sample population
- Speaks the language of audit – easy to learn and use
- Identifies control or transactional issues sooner
- Documents the audit trail automatically
- Automates repeatable tasks without programming
- Provides a graphical representation of results

3 WORK WITH PROVIDERS

An organization is not only buying a product, but also a product integrator.

CONSIDERATIONS:

- Industry Knowledge
- Years in Business
- Customer Referrals
- Global Presence
- Client Specialists

4 TECHNICAL FEASIBILITY

A solution that works well in one organization is not guaranteed to work well in other organizations.

Narrow the field based on the needs analysis for *your* audit department.

At the end of this step, you should have a clear preference for a product and have data to support your reasons.

CONSIDERATIONS:

- Your Implementation Strategy
- Readiness of your auditors to switch to the new system
- Install and work with evaluation versions of the top software selections
- Determine the functions you need (*now and in the future*)
- Results of the Software Selection Matrix

5 SELECTION AND PURCHASE

If you have followed these steps and used the Software Selection Matrix, *this is the easiest part.*

CONSIDERATIONS:

- Determine the initial deployment level
- Conduct a meeting with the audit staff to explain the change, demonstrate the value in the new software and explain roll out and training procedures and offerings.

6 IMPLEMENTATION

Get started with your new solution.

CONSIDERATIONS:

- Establish and follow the roll out plan
- Determine the audits that will utilize the solution
- Start a reference library and begin training your audit staff.

7 MONITOR AND IMPROVE

Reach for the next level.

Strive for 100% deployment. Data analysis is a core internal auditing competency. Avoid the temptation to "silo" the data analysis routines with one individual.

CONSIDERATIONS:

- Maintain technical proficiency
- Stay in contact with the client specialist
- Use the help desk support
- Keep software licenses up to date
- Look for new opportunities to expand usage

Providing a proper platform and environment can keep auditors on the right path to moving forward. Following a systematic process and doing the evaluation and selection in-house is the best way to ensure the selection is done properly.

Software Selection Matrix

1. Use your needs analysis to rank the different features available in most professional data analysis tools.
Need: 0=Needless; 1=Nice to Have; 2=Desireable; 4=Mandatory
2. Rank your top 3 software selections based on the features available.
Rank: 0=Doesn't satisfy requirements; 2=Satisfies; 4=Surpasses
3. Multiply the Need times the Rank to determine the Score of the software in each category. (Need x Rank = Score)
4. Total the scores in each category to get a weighted score.
5. Total the final scores for each category. The software with the highest total is the best fit for your company.

		IDEA		2.		3.		
		Need	Rank	Score	Rank	Score	Rank	Score
Internal Auditing Strategic Objectives								
1	Software is easy to learn and use							
2	Competitive advantage							
3	Minimize reliance on IT professionals							
4	Improve work accountability, responsibility and supervision							
5	Enable Production Program Change Control							
6	Reliability: bug free, speed, stable platform							
7	Portability: runs on a laptop							
8	Scalable: grow from desktop to server without learning new software							
9	Data Integrity & PI Security: client data is protected from auditor change							
10	Collaborative Features							
11	Supports development of automated programs; repeatable and continuous							
12	Integration with electronic workpaper system							
13	Enhance documentation of audit work completed							
<i>Internal Auditing Strategic Objectives Weighted Total</i>								
Provider & Implementer Support								
14	Global presence							
15	Years in business							
16	Multiple languages							
17	Help desk available							
18	Ease of doing business; knowledgeable in auditing needs							
19	Regular program enhancements & upgrades							
20	Training readily available							
21	User group networking program							
22	Capable independent (non-provider) consultants readily available							
23	Getting started programs available							
<i>Provider & Implementer Support Weighted Total</i>								

		IDEA		2.		3.		
		Need	Rank	Score	Rank	Score	Rank	Score
Technical Features								
24	Import all file types used by the organization							
25	Handle large file record sizes							
26	Handle large data volumes							
27	Create a resulting virtual database without creating a new physical database							
28	Ease in validating and reconciling data import							
29	Modify imported data field properties							
30	Support search for text, numbers and time							
31	Project visual chart or mapping of data actions performed							
32	File Join/Merge/Compare							
33	File append							
34	Visual Connector							
35	Sort, Indexing, Filtering, & Fuzzy Logic							
36	Summarization							
37	Extraction							
38	Pivot Table							
39	Stratification							
40	Gap Detection							
41	Aging							
42	Compare data to predicted data according to Benford's Law							
43	Advanced Statistical Analysis: Correlation; Trend Analysis; Time Series							
44	Sampling							
45	Export to typical office applications							
46	Create Custom Reports & Graphics							
47	Create Simple and Complex Calculated Fields							
48	@Functions available							
<i>Technical Requirements Weighted Total</i>								
Cost								
49	Initial Software Purchase							
50	Job aids - automated scripts & specialty components							
51	License renewal fees							
52	Getting started training							
53	Annual HelpDesk Support							
<i>Cost Weighted Total</i>								
Weighted Proposal Total								