BEST PRACTICES:
PUSHING EXCEL BEYOND ITS LIMITS WITH MANAGED ANALYTICS
EXECUTIVE OVERVIEW

Microsoft Excel is the most widely used business intelligence and reporting tool in enterprises today. Despite its original use as just a spreadsheet, it now acts as a data collection/integration tool, as well as an analysis and reporting tool. It is the de facto ‘solution’ for both business analysis and reporting.

However, Excel also has its limits. These limits impact organizations by adding cost and risk when analytics requirements outgrow the tool. However, thousands of users worldwide have discovered a way to overcome these limitations. This paper illustrates how a Managed Analytics solution can overcome Excel’s limitations and provide true business value such as:

- Timely, continuous operations improvement;
- Rapid, efficient and effective consolidation of acquisitions;
- Detection of fraudulent activity across millions of transactions;
- Reduction of direct operating costs for critical business processes;
- Risk reduction and policy compliance using trustworthy data and more.

Lack of Data Integrity: Excel never provides a “single version of the truth” for the organization since it can be altered so easily. Human involvement introduces errors, and as time passes, spreadsheets become error prone. Original data sources may or may not be identified.

Maintenance Issues: Spreadsheets can be difficult to maintain if the data is gathered from multiple sources. Each time analysis or reports are updated, new source data imports add time, cost, and potential human error. Visual Basic scripts can help in some cases; however, programming skills are required, creating a need to involve ‘spreadsheet jockeys’ or IT departments.

Limited Accessibility: Access to spreadsheets is generally limited to individuals. Windows file sharing is cumbersome at best. Online solutions help overcome these limitations but introduce security concerns.

Lack of Data Security: As locally stored files, spreadsheets are prone to theft and data loss. There is no notion of controlling access privileges among various users — only a ‘one size fits all’ policy which can only be managed on the honor system.

Reduced Querying Capability: Analyzing data spanning multiple sources is complex and very difficult to maintain.

Less Scalability: Enterprise analytics often requires queries run over data sets exceeding maximum spreadsheet file size limits. Auditors often resort to testing data subsets instead, which reduces accuracy and increases risk that anomalies or trends will be missed.

WHAT USERS REALLY LIKE ABOUT EXCEL

However, as 500 million Excel users worldwide know, Excel has some hard to beat advantages:

Easy to Learn: Spreadsheets are as common as computers or the Internet. These instinctive, powerful analytic tools allow users to start with simple math and advance as they experience the application itself.

Readily Available: Because the program comes with Microsoft Office, it’s widely available to most computer users.

Advanced Analytic Functions: Excel does a great job handling data, ‘slicing and dicing’ using pivot tables, and then running data analysis using macros and Visual Basic scripts. According to one survey, 9 out of 10 users don’t ever use the advanced functionality available to them.

Application Integration: Embedding Excel reports in other programs, particularly Microsoft Office programs like Word, PowerPoint, and Outlook is extremely easy and highly productive.

No IT Involvement: Spreadsheets have been around so long, no IT involvement is required to use and maintain them.
WHAT USERS LOVE ABOUT EXCEL AND MANAGED ANALYTICS:

Many Excel users recognize the shortcomings of the software and therefore have turned to Managed Analytics to augment Excel's limitations. One of these solutions is the Managed Analytics Platform from Datawatch — a system that has been used by small and large, Fortune 500 companies for over 20 years. In fact, over 90% of Datawatch’s users also use Excel. Datawatch complements Excel by adding key data preparation capabilities:

- Extracts data from across the organization, including unstructured and semi-structured formats;
- Acts like a "portal" bringing together access to select data sets from delimited ASCII text, EDI streams, plain text, PDF, HTML, XPS, database tables, queries and more;
- Is an "expediter," compiling reports on the fly, anytime;
- Eliminates repetitive work, sorting, grouping, sub-totaling — all automated to save time and money and increase accuracy and trustworthiness.

Managed Analytics fills Excel's 'data integrity gap' by becoming the 'single version of the truth' for files it exports to Excel by handling versions and tracking data back to its original sources.

Managed Analytics has emerged as a new category that turns disparate data into dynamic reports for easy analysis and visualization. Managed Analytics allows end users to easily access, extract and incorporate data from any combination of existing reports already published inside or outside the enterprise, then create, distribute and publish dynamic, interactive, and higher level reports — without requiring the time or expense of IT involvement.

— PERVERSIVE PERFORMANCE GROUP

THE POWER OF MANAGED ANALYTICS

Managed Analytics helps organizations save time and money, improve operating effectiveness, and reduce risk by empowering business analysts and auditors with:

- Timely access to data in the right form
- Increased trust in data
- Continuous detection of anomalies, fraud and trends across comprehensive data sets
- Minimal IT involvement

This whitepaper explores how thousands of business analysts and auditors are using Datawatch along with Excel to create significant business value while improving the quality of their work.

TIMELY ACCESS TO DATA IN THE RIGHT FORM

Data analysts and auditors often say they spend too much time preparing data instead of analyzing it. And it’s not just about collecting data, it’s about delivering the right information to the right places, at the right time, to drive the right actions. This is especially difficult when using Excel as the primary means of performing data analysis. Unfortunately, most analysts have no direct access to data sources across the organization. This leads to IT requests, added time, cost and delays in decision-making and detection of inefficiencies and fraud.

According to a survey sponsored by Datawatch, nearly all (97%) respondents reported they must work with data from multiple sources including:

- Excel — 77%
- Databases — 54.3%
- ERP systems — 42.9%
- Accounting and General Ledger applications — 77.1%
- Mainframe and legacy systems — 5.7%
- Network files — 14.3%

Respondents also stated they must work with data in loosely structured and unstructured or semi-structured formats such as EDI streams, PDF files, reports or text files.

When using Excel, the entire inefficient data gathering process is repeated each time analysts need to update their work, promoting human error and further delays in critical business decisions, and performance improvements.

How It’s Done: Datawatch simplifies data preparation and ongoing access to business critical information by providing direct access to virtually any existing report or file format in the organization including ODBC/OLEDB, Excel, delimited ASCII and other “non-report” data sources. The solution aggregates data from these multiple sources into a single, comprehensive, indexed view, and provides on-going access to updated, secure, web-based, interactive reports and dashboards for further analysis and performance monitoring. Users simply apply an existing Datawatch model to multiple iterations of a given report to easily consolidate data generated over the long term. From a single copy, to hundreds of updates, the same model handles the task, with no copying or re-engineering needed. The result is direct cost savings in time spent accessing data and improved operational decision-making with timely access to business critical information.
Use Case Example: A top 10 global audit firm uses Datawatch to vastly simplify data preparation for its clients.

“Our audit procedures include a range of analytical techniques that require us to capture financial data from our clients. With older and bespoke (custom) systems, the main means of extracting information is in printed reports. By facilitating the capture of information, we could perform our procedures more efficiently, allowing us to provide greater insight, value and quality to our clients.”

— SENIOR MANAGER, AUDITING FIRM.

The firm uses Datawatch specifically to:

- Gain direct access to mainframes and server data for loading into a custom audit software package;
- Combine mainframe and server data with data from past reports, covering account balances, transactions and ratios;
- Transform the current and historical data trapped in reports into live data;
- Better access and leverage a bank’s library of mission critical reports, whether from a transaction processing service bureau or a document and report storage system; and
- Extract information from loan records and load the data into an Excel template to identify various factors and build a comprehensive load review, turning a three to four day data-gathering task into one hour.

Use Case Example: A global retailer uses Datawatch to consolidate acquisitions and communicate on-going operational performance data. Specifics include:

- Convert static, legacy data into dynamic reports made available to all key departments throughout the parent company
- Access critical data for demand planning such as customer totals, item totals, and customer item history which would otherwise have to be obtained by searching through an item catalogue
- Allow accounts receivables to set up new vendors by seeing the acquired company’s vendor data down to the detailed record level
- Run other queries as needed on an ongoing basis to integrate business operations and processes.

INCORPORATING TRUSTWORTHY DATA

The value of trusted data to an organization is in the reduction of risk. Reducing business risk results in savings in fines, theft, brand value and the ability of the organization to obtain credit. What Managed Analytics provides that Excel does not is a trusted means of preparing and consolidating data for use by the organization. All data used by business analysts and auditors, whether it’s, unstructured or semi-structured data, data from custom inhouse systems or widely used enterprise applications (i.e., ERP systems), or from Excel itself, must always be tracked back to its original source to avoid questions of data lineage and accuracy.

How it’s done: By tracing all data back to its original sources, Datawatch provides a ‘single version of the truth’ for the organization and embeds digital signatures to confirm data lineage and authenticity. It allows changes to be tracked by author, event and date/time stamp. Furthermore, the original source data — report or otherwise — is absolutely sacrosanct. Users can manipulate it with “calc fields,” filters and other operations; however, they can’t directly change or destroy it. All these features are key to helping the business manage risk and comply with policies and regulations.

Use Case Example: A large credit union, serving more than 102,000 members was challenged to effectively understand, analyze and audit their loan portfolio. The organization is very active in car loans, home equity lines of credit, credit cards and business loans. Management wanted to ensure they had the right, trusted data for a wide variety of projects. The analysis included actual versus expected risk levels for loans, and for measuring the work performance of the internal audit department itself.

"It is critical to our credit union’s success to proactively manage the actual risk of our loan portfolio, and manage the everyday performance and workflow of our internal audit department, with the best possible information available.”

— AVP FOR A LARGE CREDIT UNION

The company was unable to use Excel to meet their needs, because they required:

- Easy access to loan origination reports from their transaction processing system, Symitar, without the need to turn to costly IT resources;
- Access to the data without using complex database tools or a report writer;
- Expedited workflow of internal audit activity;
- Reduction in the amount of loan files with missing, erroneous or non-compliant data; and
- Elimination of the backlog of work stymied by bad data.

The company achieved the desired business insight into its loan business and increased its operational performance by using Managed Analytics to:

- Mine and customize data coming directly from Symitar, including loan origination reports from historical report data;
- Transform the data into a data table, enabling the credit union to sort and filter, adding new calculations as needed;
Stratify the data with subtotals and grand totals that include many levels of detail;

Create Excel–based summaries of the top ten auto dealers and top ten in–house loan products;

Build reports using empirical, trusted data that shows which loan groups were riskier than expected and assessing the level of loan charge–offs by auto dealer to identify loan quality problems;

Audit 100% of loans processed by the Loan Center more efficiently and cost effectively;

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Create internal team performance scorecards based on the number of loans funded each day, the number of days between approvals and loan completions, the number of corrections made to loan data by loan and loan officer, and other metrics.

"Perhaps the most important project achieved using the Datawatch Managed Analytics Platform is our loan portfolio review project. Datawatch helps our executive management team proactively manage our loan portfolio."
— AVP FOR A LARGE CREDIT UNION

CONTINUOUSLY DETECT ANOMALIES, FRAUD AND TRENDS ACROSS COMPREHENSIVE DATA

Major opportunities to improve data analysis and audit effectiveness lay in an analyst or auditor’s ability to more quickly identify data anomalies, fraud and trends. More than 66% of auditors surveyed state they do not have the ability to identify trends. This is due to the inability of tools like Excel to handle checks across datasets with millions of lines and rows.

**How it’s done:** Datawatch allows comprehensive data sets to be assessed, including thousands of report pages and large data — scalable up to millions of lines and rows — and across multiple data sources.

It also allows auditors to prepare and build report ‘models,’ or custom data assembly rules, for later reuse by others. Models mine and match data from among various reports to spot operational or report ‘needles in the haystack.’

Finally, it allows users to perform additional calculations and analysis on the mined data and the ability to export it to Excel as needed.

**Use Case Example:** A hospital business analyst team uses Managed Analytics with Excel to perform a variety of advanced analytics and auditing activities for operations improvement, insurance claims and payment processing, and high volume transaction testing. Following are some examples of how the team uses the solution to save time and money and better manage risk.

The team uses Datawatch as an intermediary between their internal transaction system — MEDITECH — and other programs like Excel for communicating results. The MEDITECH system doesn’t allow them to see how individual collectors are performing on a monthly basis. They use Managed Analytics to identify trends at the individual collector level and see where improvements are occurring.

The team can run executive summary reports in MEDITECH on aging receivables by payer or collector, but can’t get it down to the patient level. They can access the detailed data, however, it is quite large — 130,000 rows and 18 columns. With Datawatch they are able to manipulate the detailed data and get down to specific patients and individual transactions that allow them to take action. Before, they could see the problem areas but it was extremely difficult to identify the root cause. For example, they might think someone was slow to pay when in reality they were never sent a bill.

The team was also asked to help check the quality of a major migration of MEDITECH to a new version. It was the largest upgrade they had ever done. They were asked to do testing before and after the installation to make sure the system was properly balanced. They took a report with 18 columns and 129,200 rows before and after, and ran a match on 2,329,000 cells. They detected things that were off and were able to fix them. The software vendor said they had never experienced the level of testing the team provided using Datawatch’s Managed Analytics Platform.

"In our business we deal in such a high volume of transactions, it can be the needle in the haystack that kills you on a compliance issue. Managed Analytics allows you to focus on what really matters most."
— TEAM LEADER, HOSPITAL BUSINESS ANALYST
MINIMAL DIRECT IT INVOLVEMENT

All of the use case stories described required little to no IT involvement in conducting audits. Auditors found that the Managed Analytics solution:

- Minimizes analysis and audit process disruption which saves time and money; and
- Promotes transparency in data analysis and increases audit effectiveness.

The business endorses Managed Analytics because it works well with existing systems and addresses many critical limitations of Excel and other packaged software, without direct IT involvement:

**Collaboration:** Allows collaboration to occur using existing systems.

**Data Integrity:** Provides a ‘single version of the truth’ for the organization since it traces all data back to original, trusted sources including timestamps.

**Maintenance:** Maintains data is easy, using models that automate the collection of source data gathering. Human error is virtually eliminated. Access to reports is easy directly via the platform or via export to Excel or other programs.

**Data Security:** Unlike Excel, the Managed Analytics solution provides delegated administrative access privileges to ensure only those allowed to see specific data have access to it and easily integrates with Active Directory and NTFS to ensure compliance with IT data security policies. It also password protects and encrypts PRFs (portable report files) and accepts passwords to direct database, PDF, FTP / HTTP access attempts.

**Querying Capability:** Provides powerful analytic capabilities similar to what Excel provides but without the need for Visual Basic programming.

A few “power features” Excel users love include:

- Table exports — arrive in Excel as completed Pivot Tables
- Easy data manipulation — sorting, grouping, subtotaling, conditional formatting and other data aggregation is easier to perform than in Excel
- Data format updates to duplicates — changes such as filters, sorts, and other modifications are automatically carried over to duplicate copies. Summary formulas, drill up/down features and conditional formatting also translate into fully functional modes in Excel.

**Scalability:** Scales far beyond Excel or other programs, up to 10 million rows, as needed.

CONCLUSIONS

Thousands of data analysts and auditors worldwide take their Excel spreadsheet to the next level with the Datawatch Managed Analytics Platform.

Using Managed Analytics allows business analysts and auditors to do more with fewer resources while increasing analysis output quality. It allows data to be accessed and prepared in the right format, establishes trustworthy data, and enables detection of anomalies, fraud and trends across massive, complete data sets, all while minimizing direct IT involvement.