

Codex Analytic Solutions

- Using Spreadsheets and Databases to optimise and safeguard critical business processes.
- Giving client organizations value-optimising Information Insight through the use of cutting edge customised reporting systems, analytical models, and robust applications.
- Improving Spreadsheet accuracy by eliminating errors through implementation of Best Practices and automated processes.

"Analytics leverage data in a particular functional process (or application) to enable context-specific insight that is actionable" (Gartner)

“Spreadsheet models are developed to fill the gap between the information needs of an organisation and the information it actually obtains from existing systems. It is not surprising therefore that spreadsheet models are widely used throughout organisations and in particular their finance departments. As a result, the use of the spreadsheets is an integral part of the information and decision-making framework” PWC

But the risk exposure associated with spreadsheets is enormous...

Spreadsheets are becoming a serious concern during internal audits, as they lie outside the scope of most managed IT systems, can be easily changed, lack internal control activities, and are vulnerable to human error.

- Over 90%[#] of operational spreadsheets contain errors.
- 5%[#] of these spreadsheets contain significant errors.
- On average, over 1.5%[#] of cells contain errors.
- Significant errors can go undetected as formal testing is rare and even serious errors may not be apparent.

Leading To:-

- Regulatory Violations leading to Punitive Audits and Fines
- Loss of Investor Confidence
- Higher Scrutiny by Investors, Auditors & Regulatory Bodies
- Unprofitable Investment Decisions
- Inaccurate, Impossible-to-Meet Forecasts
- Undetected Cost Abnormalities/Inefficiencies
- Embarrassing Financial Re-statements
- In Some Cases - Business Failure

"Errors in Operational Spreadsheets" by Powell & Baker

NEWS FROM REUTERS

TransAlta Says Clerical Snafu Costs It \$24 Million

Tuesday, June 3, 2003 19:06 EDT

By Cameron French

TORONTO (Reuters) - TransAlta Corp. said on Tuesday it will take a \$24 million charge to earnings after a bidding snafu landed it more U.S. power transmission hedging contracts than it bargained for at higher prices than it wanted to pay.

TransAlta, Canada's top investor-owned power generator, said it submitted the error-riddled bids to the New York Independent System Operator for May 2003 transmission congestion contracts. The ISO manages the state's power transmission system and the contracts hedge the cost of transmission.

But the company's computer spreadsheet contained mismatched bids for the contracts, it said.

"It was literally a cut-and-paste error in an Excel spreadsheet

when we did our final sorting and ranking bids prior to submission," TransAlta chief executive Steve Snyder said in a conference call.

Cut & Paste Error costs \$24m

THE RISKS DIGEST

Computing error at Fidelity's Magellan fund

Kathy Godfrey <kgodfrey@BBN.COM>

Wed, 4 Jan 95 17:44:41 EST

There was a big flap recently over Fidelity's Magellan fund estimating in November that they would make a \$4.32 billion distribution at the end of year, and then not doing so. A letter of explanation was sent to the shareholders (including me) from Charles Burkhead, the President of Fidelity, including the following pertinent items:

During the estimating process, a tax accountant is required to transcribe the net realized gain or loss from the fund's financial records (which were correct at all times) to a separate spreadsheet, where additional calculations are performed. The error occurred when the accountant omitted the minus sign on a net capital loss of \$1.3 billion and incorrectly treated it as a net capital gain on this separate spreadsheet. This meant that the dividend estimate spreadsheet was off by \$2.6 billion....

Fidelity dividend estimate out by \$2.6b

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Budget discrepancies attributed to computer error

Friday, January 6, 2006

Computers and computer programs are great when they work right; but when something goes wrong and you do not catch it, you can be in trouble.

That is what city finance director Tom Chandler says happened to the 2006 city budget that was distributed to city council members and posted on the city's Web site for the council meeting.

The budget was created on a Microsoft Excel spreadsheet that was a copy of the same spreadsheet that was used for the 2005 budget, which worked without complication in 2005. The system apparently worked correctly until sometime in late December when, Chandler says, it developed a problem, causing the 2006 budget to show a \$5 million deficit in the water and sewer fund. This error was in the copy of the budget that the city council members were provided and was posted on the city's Web site for the Jan. 3 city council meeting. The error was not present in the budget that was posted on Dec. 14. The difference between the two budgets led the council to postpone voting on the budget until it could be clarified.

Wrong file used results in Budget out by \$5m

The New York Times

Business Day

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Fannie Mae Corrects Mistakes In Results

By JONATHAN GLATER
Published: October 30, 2003

Fannie Mae announced yesterday that it had corrected errors in its most recent financial results, which in some cases varied from the correct amounts by more than \$1 billion. The company attributed the errors to flawed application of new accounting standards.

As a result of the corrections reported by the company, which is the nation's largest buyer of home mortgages, its mortgage portfolio grew by \$1.7 billion; its total assets by \$1.04 billion; and its unrealized gains on certain securities, by \$1.3 billion. The changes do not affect the company's income statement, Fannie Mae said.

"In adopting a new and complex accounting standard in a short period of time, Fannie Mae had to put in place a system and process to capture all open commitments and mark them to market," the company said in a statement. "To implement this standard, Fannie Mae utilized information from its internal, automated systems in conjunction with spreadsheets that made additional calculations necessary under the new rule." A spokeswoman said that one of those

spreadsheets contained an error.

Financial Reports show errors exceeding \$1b

There are three general categories of spreadsheet integrity risk:-

Structural Design

Most spreadsheets are built by individuals looking for a quick solution to a problem. Over time they are expanded into complex beasts but lack structural integrity, focus, clear logic and documentation.

Calculation Formulas

- Fixed-Value Formulas (Hard Coding)
- Lack Of Columnar Or Row Consistency Leading to Reference Errors
- No Protection Leading to Copy and Paste Errors
- No Intrinsic Error Checks

Data Inputs

- Data Validation Checks
- Data Entry Controls
- Explanatory Features

There are two key types of errors

- Latent Errors - bad practices that carry significant risks of realised errors
- Realised Errors - actual errors resulting in wrong results

The table below shows the most common errors and their frequencies

Type of Error	Wrong Results	Poor Practices
Hard-Coding	8.1%	76.7%
Reference	36.4%	8.7%
Logic	45.6%	12.6%
Copy/Paste	8.6%	0.1%
Omission	1.1%	1.6%
Data Input	0.1%	0.3%

Based on 50 Operational Spreadsheets with 270,722 formulas from "Errors in Operational Spreadsheets" by Powell & Baker

Fortunately, spreadsheets are very controllable by putting in place specific procedures that can all but eliminate spreadsheet risk.

We combine three core practice areas:

Task Completion

We will complete specific project assignments for you, including designing and developing automated reports, building financial models, performing analysis, building and mining databases etc.

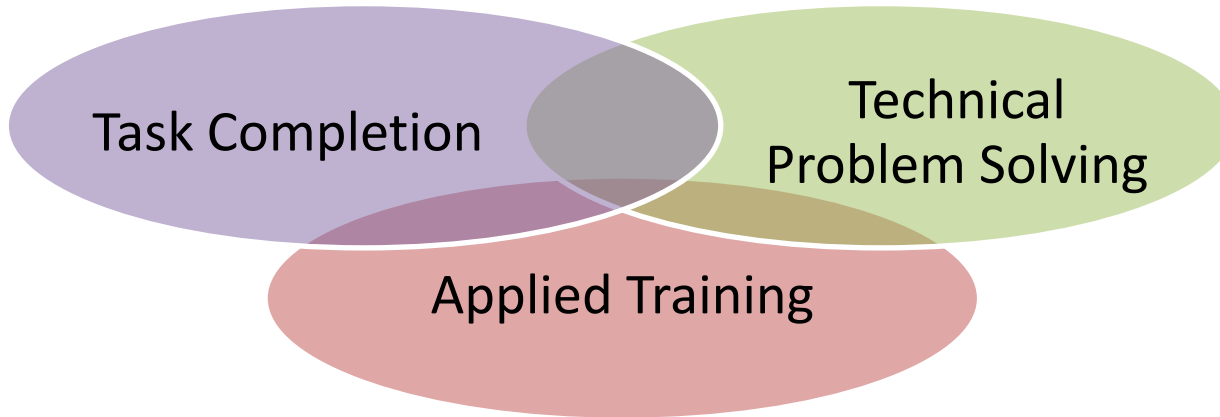
Applied Training

We will train your people one-on-one or in small groups, as they perform actual work - thereby learning not just the theoretical, but the practical - and applying that knowledge directly to their own work in real-time.

Technical Problem Solving

We will always be on-call to answer your “how-to” questions, to fix known errors, uncover unknown ones, provide quality assurance review, and offer guidance for improvement and optimisation.

We will be your personal Excel & SQL Server gurus



- Model Creation
- Report Development
- Financial Analysis
- Data Capture & Processing
- Database Development
- Improvement of Existing Reports & Models
- Build Automated Solutions to Repetitive Tasks
- Stress Test Models for Accuracy
- Integration with Third Party and Legacy Systems
- Build User Defined Functions

- Productivity Gains
- Elimination of Mistakes
- Improved Information Visibility
- Optimized Decision-Making Through Analytics
- In-House Knowledge & Skills Development
- Advise on Best Practices

- “How To” Questions Answered
- Error Resolution
- QA Review & Correction
- Help With Logic & Spreadsheet Structure Through Model Appraisals
- Real-time Response Service

We offer a full auditing and reparation service.

Find

- Comprehensive Audit Review by Financial Analysts & Spreadsheet Development Experts
- Detailed graded report on findings clearly identifying all realised and latent errors
- Specific Recommendations to correct errors, eliminate risk, and ***permanently prevent recurrence***

Fix

- Fix all errors throughout the spreadsheet model or report
- Eliminate fixed-value formulas and replace with fully-referenced formulas
- Eliminate all columnar/row formula inconsistencies
- Dramatically improve calculation efficiency
- Build in robustness to enable future error free modifications

Fortify

- Redesign the spreadsheet structure to make it more intuitive
- Fully protect worksheets and sub-components from modification or deletion
- Add intrinsic automated error checks and alerts
- Add extensive data validation checks and controls
- Add comprehensive set of user help and explanatory features

- British, Resident in HK since 1994.
- BSc Hons in Mechanical & Electrical Engineering from Edinburgh University.
- Building Excel Models since 1990.
- Awarded CFA designation in 1998.
- Rolled out regional valuation models for major Financial Institutions across Asia.
- Over 5 years direct experience with Hedge funds both Equity and Fixed Income based.
- Excel trainer around the Asia Pacific region since 1996.

*Combining investment and accounting expertise with Excel and IT proficiency.
Offering tailor made data management solutions across front, middle and back office*

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