

# Risk Management Solution

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## Spreadsheet v/s Software Application

**TRANSGRAPH**  
RESEARCH-CONSULTING-TECHNOLOGY  
commodity market mentors



# Issue – Are we managing Input Data efficiently?

- Can we automatically import data from ERP / legacy / Contract Management Systems into Risk Management Solution?
  - Eliminates Operational risks of either tampering with data / unknowingly entering wrong data<sup>1</sup>
  - Reduces Risk Analysts' effort on data input in pre-specified formats and enables them to spend more time in analysis
- Can we configure / adjust daily price data to suit our specific requirements, automatically?
  - Eliminates Risk Analyst's time spent on handling daily price data

<sup>1</sup>There are numerous cases of spreadsheet risk leading to a loss of both money and credibility for the firms involved. One such example is TransAlta in Toronto, which reported a \$24m loss to earnings after a cut-and-paste error in a spreadsheet.

# Issue – Are Risk Algorithms suited for our business?

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- Are risk algorithms suited for commodity trading business or are they simply borrowed from the financial world?
  - Mean returns (tomorrow's expected returns) for most commodities are seldom zero unlike the financial world, and so should be incorporated in risk algorithms.
  - Missing Prices are commonplace in Commodity business, unlike the financial world, and should be dealt with properly in algorithms.
- Can the algorithms give consistent results for our commodity segment?
  - Algorithms should be properly back-tested for each commodity segment by analysts who understand both – the commodity segment and risk measurement.<sup>2</sup>

<sup>2</sup>Statistics exist revealing that as many as 94% of spreadsheets in use contain errors, including input errors, logic errors, interface errors and wrong cell range errors that put decisions and dollars at risk.

# Issue – Are the Risk numbers generated usable and meaningful?

- Is the solution just a tool to calculate risk or is it an enabler in implementing a broader Risk Management Framework?
  - Risk numbers per se are of little use if they cannot enable better trading and risk management decisions. To enable better decision-making, the solution needs to have hassle-free imports from transactional systems and provide single, accurate view of consolidated exposure and risk data at a single location.
  - A good Risk Management solution is one that is capable of implementing an Risk Management Framework, enterprise – wide and is flexible enough to incorporate changes in the framework from time to time.
- Is the solution capable of giving usable information?
  - Instead of just sifting through loads of data, the solution should enable users to figure out root causes of changes in P&L, and present pre-analyzed information to the managers.

# Issue – Is the analyses comprehensive and reusable?

- Can the solution store and display trends?
  - Storing daily transaction and risk data for getting broader picture of movements in risk and exposure is an uphill, but necessary requirement. This enables sundry trend analyses which is crucial in making better trading and risk management decisions.
- Can the solution store simulations?
  - Using simulation to gauge effect of expected transactions / what – if scenarios on the portfolio is a critical requirement. Such simulations should be stored for reporting / post-mortem analysis within the solution to reduce analysts' efforts.
- How crucial are databases and data warehouses for analyses?
  - One of the biggest differentiators for analytical applications is the presence of databases and specific-architecture based data warehouses which store millions of rows of data, containing both the raw transactions and self-generated analytics to enable complex drill-downs across several dimensions for useful analysis.

# Issue – Does the solution enable active Risk Management?

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- Can the system alert the users of impending risks and breached limits?
  - The basic tenet of Risk Management is that it should be proactive in nature, by asking users for specific actions to be taken. Studies show that most solutions are passive, needing the users to do a lot of analyses before reaching an action point.
  - A limits based alerting mechanism can enable the users in actively managing not just their sundry risk limits on traders / portfolios / business units / commodities, but also their stop loss and quantity limits as well.

# Issue – Is the solution scalable, flexible and easily accessible?

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- Can the solution be scaled up easily to accommodate increased no. of daily transactions?
  - An analytical solution typically has to store over 15 million rows of data per year (average estimates). The solution should perform well even as database size increases dramatically over a short period of time.
- Given that reporting requirements keep evolving, can the solution cater to such changing needs?
  - The solution should have a really flexible architecture and reporting framework to accommodate not just current reporting requirements, but those that might come in future.
- Can the solution be accessed by any user from anywhere?
  - Most solutions that focus on usability from an enterprise application perspective ensure that they are web based with high security so that they can be used by any user from any place in the world.

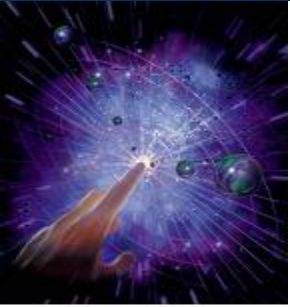
# Issue – Is the solution auditable, data integrity assured?

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- Can an internal audit team ensure that the system has not been misused / recalibrated at any time to show lesser risk / hide risky transactions?
  - Audit is another critical requirement for all systems that enable compliance to internal / external guidelines. A sound solution will keep detailed audit trail of all daily changes / recalibrations made to the system and ensure security from operational risks.
- Can data integrity be assured?
  - Many instances of similar data not getting aggregated due to either spelling mistakes / an extra space in the name, have been found with various systems. This raises the risk the user getting a wrong picture of the overall exposure and taking wrong decisions which can be costly.



# THANK YOU



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