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RESEARCH NOTE BI FOR PORTFOLIO RISK MANAGEMENT IS NO LONGER OPTIONAL

THE BOTTOM LINE

The failures of Fannie Mae, Freddie Mac, Lehman brothers, AIG, and Washington Mutual were caused only in part by sub-prime mortgages. Lack of visibility in the management of portfolio risk was also a factor. Would these institutions have failed if they had been aggressively using business intelligence (BI) tools to monitor the riskiness of their portfolios?

Every major vendor of BI has a marquee-customer success story that starts with something like this, "When we had a new CEO come in, she couldn't believe that we couldn't determine what sales were at any given time, so she mandated we fix that right away." BI is ideal for solving this kind of a problem because it is able to expose to people large amounts of data that they can analyze any way they want with queries, reports, drill downs, and dashboards. In fact, Nucleus has analyzed many high-ROI deployments where BI was used to not only create this visibility with improvements in productivity, but increases in sales and reductions to operational risk.

ATTENTION, WALL STREET

It turns out that BI can be applied as effectively and profitably to investment risk management as it is to operational areas such as sales. The universe of variables required to monitor investment portfolio risk — for any level of management — doesn't have to be that large, and would include the following:

- **Origin.** Management should be able to know if an asset was purchased from another institution. No two financial institutions or insurance companies have the same underwriting standards or culture. For this reason, assets that have been purchased should be monitored carefully, especially if the originating institution has more lax underwriting or analysis standards.
- **Asset type.** The record for every loan, investment, or insurance contract, should clearly identify what kind of asset is involved, such as a home, car, business, or even collateral such as inventory or accounts receivable.
- **Underwriting quality.** Ideal underwriting processes encompass both the underlying party's ability to service the committed cash flows and the quality of the collateral in the transaction, which can be a secondary source of repayment. Managers should be able to determine instantly whether either or both of these attributes were evaluated at origination, and to what degree follow up analyses were performed.
- **Rating.** Every financial institution has a rating system that is used to identify the quality of an investment as the result of all underwriting criteria. A key factor that goes into a rating is the potential volatility of any factor that can

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adversely affect the asset, such as an upward interest rate adjustment that can reduce a creditor's ability to repay.

THE UNAVOIDABLE MANDATE FOR THE FINANCE WORLD

BI should be deployed and integrated with databases so that risk managers at any level in a financial institution — up to and including a board of directors — can drill into this data and answer any question they want. For example, a senior credit officer of a multi-region bank should be able to use drill-down or query to determine what percentage of loans have commercial real estate collateral in a particular market where these assets are known to be falling in market value.

Would Lehman and AIG have failed if risk managers had used BI to answer the question, "*What percentage of our investments are related to sub-prime payers whose monthly payment can increase by more than a third?*"

Relationship managers and junior-level underwriters gather dozens, if not hundreds, of data points in the underwriting process. The data exists, so properly analyzing it is a matter of consolidating databases and integrating them with BI properly customized for portfolio risk management. If this seems expensive, consider the alternative. It would not be a wise career move to leave the risk managers of a multi-billion dollar organization operationally blind in order to save a tiny fraction of that in deployment costs.

THE COSTS OF MANUAL RISK MANAGEMENT

Organizations that effectively manage their risk may still be leaving money on the table if they are not enhancing it with BI. Many organizations, such as Bank of America, Wells Fargo, and Goldman Sachs, will survive the sub-prime crisis because of strong credit cultures and procedures. But it can be extremely costly to leave these workflows unsupported by applications that expose risk-related information in a standardized way. When a bank, insurance company, or investment firm evaluates its risk position — as is typically done on a monthly basis — it requires data gathering and report building by all levels of management on both the line-of-business side and credit management sides of the business. This is a costly, labor-intensive and error-prone process that can be fraught with data diversity issues that not only complicate the decision making process, but also make faulty conclusions and decisions far more likely than if everyone had been viewing and interpreting the same data in the same way.

IT'S NOT ROCKET SCIENCE

Banks and financial institutions should have little hesitation to deploy BI for risk management, because they routinely complete far more complex deployments on an enterprisewide basis. Banks commonly accumulate and analyze terabytes of depositor data for both regulatory and marketing purposes. Other financial institutions have data-intensive integrations with partners such as custodial banks and transfer agents. If banks can figure out which depositors they should upsell to, and if mutual funds know where to send all those prospectuses, then these institutions should be able to use BI to manage their portfolio risk.

Cost should also not be a reason to avoid investing in BI. BI is a relatively mature technology and deployments are steadily becoming less demanding as vendors and partners become more experienced. Even a large and enterprise wide deployment

will likely cost only a tiny fraction of the market capitalization that it would be protecting. For this reason, choosing not to deploy BI as a risk management tool on the basis of cost alone is a potentially reckless decision.

INVESTOR BEWARE

Before investing in a financial institution, investors — whether it's the government, institutional investors, or individuals — should demand to know how that organization is managing its portfolio risk.

If business intelligence is not being used to analyze current-state and forward-looking risk, investors should require an explanation, demand a higher risk premium, or invest their money elsewhere.

Although BI is a powerful risk management tool that can protect the investing public, regulatory requirement of its use is not the answer. Requiring companies to prove that they are effectively using BI for risk management will only create a new set of rules that can be gamed, more revenue for accountants and consultants, and more work for overtaxed finance departments. Worse, it would be likely to push more companies away from the public markets, as did Sarbanes Oxley.

CONCLUSION

BI can't be mandated or regulated, but the market should insist on it for any financial institution, and the government should require its use as a prerequisite for any type of federal guarantee, such as FDIC insurance. Because BI enables risk managers in finance institutions to rapidly view, interpret, and analyze data in a standardized way, it should be considered an operationally critical management tool that can potentially prevent exposure to disastrous conditions such as the sub-prime crisis. Investors should shy away — or demand a higher risk premium — from companies that do not have a sufficiently automated approach to risk management. Boards of directors, CFOs, and CEOs should all mandate the evaluation of how their organization could benefit from this application of BI and PM. Additionally, any risk manager who has already made the decision not to make such an investment should be required to make the business case as to why.

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