How can DSS help implement Basel II?

Unless you work for a financial institution, or a DSS vendor or an IS/T consulting firm this question may not be directly relevant to you, but this Ask Dan! question is important. The presumption of bankers and bank regulators is that appropriate deployment of computerized decision support systems CAN help implement Basel II and that DSS and Information Technologies SHOULD be used to help implement Basel II. The major challenge and issue facing bank executives is how to do this! Design, development and implementation of relevant risk management DSS is an important topic because it has been estimated that some large banks may spend USD $100 million or more over the next five years trying to change processes and implement information systems to comply with Basel II requirements.

So what is Basel II?

Briefly, Basel II is a global capital regulatory accord that has and is being developed by the Basel Committee on Banking Supervision in Basel, Switzerland. On June 26, 2004, central bank governors and the heads of bank supervisory authorities from the Group of Ten (G10) countries endorsed the publication of a revised framework for bank capital measurement and capital standards. This new framework has been under development for many years and some banks have been making changes in technologies and processes in anticipation of them. All of the procedures and details are still however not developed. This new capital adequacy framework is commonly known as Basel II and it will replace the 1988 Basel I standards for major banks.

The overriding goal of Basel II is to insure the stability of the global banking system. The primary focus is on managing the risk associated with bank lending activities. Because some loans are riskier than others (i.e. the chance of default differs), the reasoning of regulators is that banks should adjust their capital reserves to reflect the risk in their loan portfolios. Basel II specifies guidelines for managing credit, market and operational risk. Credit risk focuses on the characteristics of the borrower, market risk focuses on the external capital market and operational risk focuses on the processes and procedures of the lender. The framework is tied to 3 pillars for achieving regulatory compliance: capital reserves, supervision and disclosure. In general, Basel II requires banks to measure, monitor, mitigate and disclose risk. Basel II is primarily focused on adjusting capital requirements based upon measuring and managing credit and operational risk. But according to Gartner, banks will still need to address risks involving technology, market forces, liquidity and capital allocation.

Why is Basel II important? In general, I think the Basel II accord is important because of the increasingly global nature of banking and lending activities, because of the sheer magnitude of the regulatory effort involved, and because the accord is breaking new ground by focusing upon operational risk. What does the accord mean for banks? Initially only the very largest banks in the world will need to comply with Basel II including the 10 largest US banks. The carrot that has been held out to these banks is that if their risk management, lending practices and business processes result in a conservative risk exposure for the bank, then the bank's capital requirements would be lowered. So if a bank's managers can demonstrate to regulators that processes, procedures and systems are in place to insure stable, low risk lending activities, then the bank will not need to keep as much capital (money) in reserve. Instead of today's 8% requirement for reserves, a bank might only be required to maintain a 7.5% reserve. That might not seem important or significant, but for a large loan portfolio that bank may be able to lend millions of dollars that it can not lend now, hence improving bank profits. Basel II can potentially improve the stability and profitability of the global banking system. Also, Basel II is an enormous business opportunity for DSS and Information Technology software vendors.
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What is the role of DSS/IT? The working presumption is that information technology is the only way to help loan officers make appropriate credit risk decisions, that IT can help reduce operational risk and that IT is absolutely essential to meet the reporting requirements of Basel II. Some constraints on using IT to implement Basel II include data collection, data quality and data integration problems, data storage and access issues, decision support application design and development and infrastructure and related technology issues.

For the past few years, I have been tracking the development of the Basel II accord. Growing up in America, I had learned to pronounce Basel as “bay sulph.” One of the first adjustments I had to make while following this topic was to call Basel--“baa suhl.” I still hesitate occasionally and need to remember that Basel rhymes with the sound sheep make when they are happy! Baa! Baa! Recently, I learned that some consultants promoting Basel II solutions refer to the accord as “Baa” II. By whatever pronunciation, “Baa” II is a complex, ambitious global regulatory initiative. Bank managers face the prospect of spending millions of dollars on initiatives to achieve compliance. If the initiatives do not reduce risk appropriately, capital requirements might actually increase and hence profits would be reduced. Getting the DSS technology, processes and training correct is important so Basel II is a “win-win” proposition for the banks that implement the accord.

Providing decision support will require additional data gathering, some integration of data from diverse transaction systems, some redesign of business processes, and development and implementation of multiple DSS. Quantitative and qualitative data relevant to operational risk will need to be collected. Middle and senior-level managers will need decision support for monitoring risk scorecards and other metrics. More than likely a major bank will need a sophisticated data-driven DSS based upon a data warehouse to provide business intelligence about operations and to meet reporting requirements. A computerized system for providing lending officers with credit risk scores and other risk data about borrowers will need to be expanded and enhanced in many banks. Some banks will want to develop document-driven and even knowledge-driven DSS as part of improved lending work flow processes. A variety of model-driven DSS will be needed to support lending decisions, credit allocation decisions, risk management assessments and risk forecasts. The major challenge will be creating some integration among all of the systems that can be deployed. Integrating decision support systems across the various levels of decision makers and across the interrelated business and decision processes will be challenging. Given the time constraints and cognitive complexity of understanding and meeting the new requirements it seems likely that overlapping, incompatible and needlessly redundant systems will be deployed in some banks and that gaps will exist in the systems deployed in other banks. The challenge for many banking executives is avoiding "ready made" solutions from a vendor that meet only part of the regulatory compliance need and that then fail to integrate with solutions from other vendors. Decision support for Basel II compliance is hindered by both information procurement problems and data integration problems.

What do the DSS/IT vendors say about Basel II?

Sungard (sungard.com) argues "The new Basel Capital Accord gives banks the opportunity to reduce their economic and regulatory capital through efficient data management and reporting. Basel II also provides a unique opportunity for banks to modernize and upgrade their risk practices, policies and technology so that they can manage their credit, market and operational risk in a holistic fashion. Based on The SunGard Basel II Capital Manager, SunGard offers a complete Basel II solution covering capital calculation and reporting, data consolidation, credit risk and operational risk." SunGard markets both Credient and BankWare.
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According to the accenture.com website, Accenture "has formed relationships with key software providers across credit risk, operational risk, risk analytics, data management, reporting and finance capabilities and can help you navigate the vendor landscape and select the right tools for your organization." Accenture claims it has a Basel II Diagnostic Tool that "helps banks quickly assess the requirements and challenges presented by the Basel II Accord." The tool highlights the key Basel II requirements and their impact on the bank; classifies a bank's current and target capabilities in the required Basel II areas; identifies a bank's gaps in operational and credit processes created by Basel II requirements; and enables the development of prioritized action plans for achieving Basel II compliance.

IBM's Business Intelligence solutions group is "preparing templates that will help Basel II-affected companies respond to the regulation's requirements." Informatica and IBM are offering a solution to help financial companies address the information management challenges of Basel II. The solution includes Informatica's PowerCenter, PowerExchange, PowerAnalyzer, and SuperGlue - and IBM's Banking Data Warehouse (BDW). Accenture worked with IBM, Informatica and Business Objects to help Dresdner Bank AG's Information Technology unit for Credit and Risk Systems build a data warehouse to improve decision support and internal auditing.

Experian-Scorex (experian.com) offers a complete, flexible retail banking solution for institutions complying with the New Basel Capital Accord (Basel II) Advanced Internal Ratings Based (A-IRB) approach. "Experian-Scorex's market leading decision support software, Strategy Management, stores the data needed to support Basel II implementation and to provide the basis for ongoing monitoring and validation."

Fair Isaac (fairisaac.com) advertises that it "can help turn compliance into competitiveness". Fair Isaac's website states "Basel II aims to reward the adoption and use of best-practice risk management as a means of compliance. Lenders that take a more effective approach to assessing risk by improving credit risk management processes for estimating risk exposure - and integrating this knowledge into decision-making processes - are expected to reap the rewards of reduced capital reserves. By lowering their capital requirements, these lenders will have more capital available for investment. By contrast, lenders with higher risk portfolios or with inadequate risk management preparation could be faced with increased reserve requirements, and decreased competitiveness."

See Consulting (seeconsulting.com) argues "Traditional approaches to managing credit risk deliver neither the insight nor the agility demanded by emerging complex credit environments. The challenge to match information content, detail, format, mode, and periodicity to decision support needs and knowledge of potential users is what makes a complete risk calculation model in the modern era more complex."

Additional vendors that are promoting their Basel II compliance solutions include FNX Sierra global system, HSBC, Norkom, SAS, Standard & Poor's, Summit System, Teradata, webMethods, and Wipro Technologies. Some other IT consulting firms that are active with Basel II solutions and systems development and integration include Accenture, Ernst & Young, KPMG, Deloitte, and Paragon Consulting.

Challenges associated with building DSS to help with Basel II compliance include building operational loss databases, data integration, collecting new data to calculate probability of default, exposure at default and the amount of loss given default, delivering data and analytics for real-time
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Lending decision support and monitoring, and developing audit trails associated with the "risk informed" decision making and enhanced lending decision processes.

Many "hard issues" remain controversial including how to incorporate Basel II requirements into the corporate governance framework. "Baa" II is about much more than decision support and information technology (although those issues are mission critical to compliance and conceptually challenging). "Baa" II is about risk management and risk mitigation. "Baa" II may be another Y2K like project for banks -- high cost, complex, high time pressure. So will Basel II be the IT challenge of the decade in banks? YES! Will Basel II affect competition among banks? YES! The banks that get it right will grow, expand and be more profitable.

What is the current status for implementing DSS to meet the requirements? According to a survey by Mercer Oliver Wyman, only about one-third (31%) of banks have developed advanced modeling programs for quantifying operational risks and allocating capital. More than one-half (57%) of respondents identified Key Risk Indicators (KRIs) as a critical area for improvement. My guess is that bankers are being overly optimistic about their actual and needed implementation of computerized decision support.

What is the timetable for compliance? The implementation schedule seems to creep or slip forward in time, but as of June 26, 2004 the "Basel Committee intends for the new framework to be available for implementation in member jurisdictions as of year-end 2006. The most advanced approaches to risk measurement will be available for implementation as of year-end 2007, in order to allow banks and supervisors to benefit from an additional year of impact analysis or parallel capital calculations under the existing and new rules."

What should bank executives do to implement effective DSS and help insure compliance with Basel II? Start with an audit of the bank's lending decision process, model the current portfolio and assess the possibilities for lowering capital requirements, develop and prioritize DSS/IT projects, allocate resources to projects, find partners and evaluate proposed solutions.

References


Relevant recent press releases at DSSResources.COM
07/15/2004 Research and Markets: Basel II - a catalyst for a whole redesign of the banking process.
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06/30/2004 Teradata announces Basel II and risk-management enhancements in latest Teradata Financial Services logical data model.

06/26/2004 G10 central bank governors and heads of supervision endorse the publication of the revised capital framework.

06/07/2004 New Global Banking Survey by Mercer Oliver Wyman finds industry making significant progress in operational risk management for Basel II.


05/17/2004 Experian launches Decision Insight commercial credit decisioning tool.

05/11/2004 BearingPoint report cites the need for data convergence; explains excessive spending on risk and compliance.

05/06/2004 Experian-Scorex and Standard & Poor's Risk Solutions host Basel II Accord seminar.


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