

Best Practice Risk Management and Basel II Compliance

A Compliance Suite white paper from HP



Table of contents

- Critical issues 2
- Regulatory issues 3
- Domain knowledge 3
- Resources 3
- Data 4
- Politics 5
- Technology 5
- Cost 5
- Sustaining effort 5
- Conclusions 6
- The HP-Quadrant approach 6
- About Quadrant Risk Management 7
- HP advantage 7

Fig 1. Critical issues

Only through the comprehensive management of all these issues will a successful Basel II implementation be achieved



The underlying motive behind the Basel II proposals is to encourage banks to progress along a path of increasing sophistication in respect of risk management, controlling all risks across all businesses in a group.

Banks must undertake many different projects in order to move forward in a coherent manner towards achieving best practice and Basel II compliance. These should address all the three principal categories of risk—credit, operational and market. They should also include evaluating the different layers of risk control including risk data collection, collation, analysis and capital evaluation (Pillar 1), policy (Pillar 2 in a Basel context), and disclosure (Pillar 3).

Traditionally, risk management within the financial services industry has been tackled at a line-of-business level, often in product silos where risk managers often fail to gain an integrated “customer” view of exposure. This causes problems for Basel II compliance. A bank’s activities in all areas need to be pulled together to create a consistent approach to compliance, rather than a series of disjointed, overlapping projects that go in diverse directions.

With international regulators passing their interpretation of the Basel II Capital Accord guidelines into law, organizations have to adopt more comprehensive methodologies designed for gaining a more granular view of risk across the enterprise in order to comply. This paper sets out the critical issues likely to be encountered when implementing a technical solution for Basel II compliance.

Critical issues

There are a number of critical issues to consider around best practice risk management generally and Basel II specifically. A successful implementation will only be achieved through the comprehensive management of the following areas:

- Regulatory issues
- Domain knowledge
- Resources
- Data
- Politics
- Technology
- Cost
- Sustaining effort

Regulatory issues

The implementation of Basel II is subject to different time-lines in different regions around the world with early adopters moving in 2006. However, as national regulators adopt interpretations of the new accord from the Bank for International Settlements (BIS), the message has to be that compliance is now a case of when it must be achieved, not whether it is possible.

Despite the amount of money being spent, we have seen a number of banks fail to liaise with their local regulators. It is difficult to achieve Basel II compliance while operating in a vacuum. Maintaining communication with the regulator both prior to and throughout the implementation phase is crucial. Local regulators may well require a particular approach to the issues surrounding data, and any solution needs to be flexible enough to cope with changing requirements from the regulator.

Another potential hurdle for institutions will come in the process of the local regulator signing off for compliance to Basel II. This is a meticulous process that will draw heavily on the institution proving, among other things, that it is holding specific data, that it understands that data and has the ability to use that data to build its models. Close liaison throughout this process is essential.

Domain knowledge

Basel II implementation calls for large volumes of data to be stored for long periods of time. The tools to enable such a solution will be technology driven, but technology is merely an enabler, it does not guarantee compliance. There are two critical questions when looking to build the data requirements for Basel II, “what data do I need?” and “what data do I have?”.

This issue goes to the core of the matter. Quite often the IT side of a project does not understand the business need and business does not understand the workings of IT, resulting in both failing to fully understand the complexities of Basel II. The essential requirement in a Basel II solution is the ability to identify the data predictive of behavior by business line or asset class. This data then has to be structured for business need, preferably by people who have experience and who are able to bridge the gap between IT and business.

Even so, it is not possible to apply a standard approach across all banks. In our experience, a solution must be flexible enough to reflect the different methodologies used by organizations. In other words, it must be adaptable to provide a specific solution for the individual bank. Alongside systems implementation skills you need help from people who understand the banking industry inside out—people who have lent money and, preferably, lost and recovered it.

Without domain expertise, problems occur in coming to grips with the quality of data, interpreting its meaning, examining the metadata and understanding the definitions. Teams of IT contractors can spend months trying to address Basel II issues yet achieve very little of value to the bank. A balance of skills is critical and the detail of Basel II has a fundamental impact on the technology and data model used in your solution.

Resources

In many environments, addressing Basel II requires a culture change in terms of the way banks manage risk. It is about risk management and economic capital becoming the drivers of the business.

For projects that require change across many parts of the organization, success requires buy-in at the highest level. And that buy-in must be communicated down through all levels of the business. It is essential that the sponsor is sufficiently empowered to make the solution work across all organizational divisions.

This sponsor should ensure that the best people are allocated to this critical project. Implementation of a Basel II solution requires people with experience, knowledge and specific skill sets rather than rank. It is also essential that these people are available throughout, from implementation through testing and on to deployment.

Data analysts at the bank who understand the Accord should be involved in the project from the start, taking time to understand the models and loading the data. Where necessary, ensure that your outside vendor's staff are sufficiently integrated into the project team to ensure transfer of knowledge to your organization.

Data

Risk data is at the heart of Basel II requirements. Risk data needs to be enterprise-wide and tied in to all aspects of customer, commercial, financial and operational data at the lowest level of detail, to enable the necessary statistical analysis to be undertaken. The collection and storage of risk data is not simply an attempt to enable calculation of capital for regulatory requirements. It is central to the organization's ability to achieve competitive advantage through dynamic analysis and management of the risk contained in its own portfolios.

As we have already indicated, a financial institution needs to collate vast amounts of data as inputs to a comprehensive framework of risk analytics. However, the analysis itself generates huge volumes of data that need to be stored in a retrievable way. It is only with a comprehensive, granular data architecture that such volumes of data can be collected and collated to create a store of future value, rather than a store of historic data objects gathering dust.

The time dimension to risk data will be an important differentiator in an institution's capability to exploit its investment in risk systems. Data history does not only need to comply with the minimum periods set out in regulatory papers—it must be structured to ensure that analysis can be performed on the portfolio across economic cycles of varying duration.

Financial institutions often struggle to identify the key factors and contributors to the complexity of risk data. Risk data can be described as: "The universe of all data which might have relevance to a financial institution's assessment and analysis of its risk portfolio".

The collection and storage of data therefore is a complex issue and to start the process you will need to undertake a data gap analysis. Basel II requires a financial

institution to make "assessment and analysis of its risk portfolio". From our experience, this risk portfolio of a banking institution will mainly be made up of:

Financial assets—individual asset classes and sub-classes (retail, commercial, corporate, specialised lending, equities, etc.)

Market risk exposures—such as currency, interest rate, equity and commodity exposures;

Operational risk—Level I, Level II and Level III risk definitions across all product/processes, institutional, channel and functional risk categories;

Liability-side risks—such as issued securities, deposit volatility, liquidity.

The analysis will include:

- Credit risk analysis, covering risk grading (rating or pooling), probability of default (PD), loss given default (LGD), exposure at default (EAD), expected loss (EL)—at different transactional, pool and portfolio levels.
- Market risk analysis, covering value-at risk (VAR) for the different risk types and markets.
- Operational risk analysis, covering risk self-assessments, control analysis, key risk indicator analysis, actual loss event data (internal and external).
- Stress and scenario-testing—in relation to all the above classes of risk, and to the testing of business, strategic and reputation risks.

But to start the process you will need a data gap analysis. Once you have identified the data gap, (and there will be data gaps) it is necessary to ensure that the quality and quantity of data is sufficient for the approach you have chosen. Changes to front-end processes will almost certainly be required in order to start collecting missing data.

Politics

Difficult political situations can be avoided through effective leadership and allocation of resources, but there will always be vested interests. This can manifest in a number of ways. Divisions familiar with particular technologies and methodologies may well wish to stay with what they know and understand, despite the fact that they may not be well suited to the task. Data ownership can also be a problem. For example, marketing and retail divisions often tend to guard their data very closely. A large bank with lines of business across retail, wholesale and SME banking might also try to each build their own risk data warehouse, each taking a different approach to data description and modelling and implementation. This, together with a lack of communication, can make aggregation at an enterprise level very difficult and cause significant data quality issues.

Don't let entrenched business processes and day-to-day operations become a roadblock. Tackle changes early. The best way to achieve this is to have a high-level team sponsor and a referral process to resolve problems. The sponsor, ideally a C-level executive or chairman, should keep the project on the agenda all the time and create a shared vision of what Basel II means for the bank.

Technology

Technology must be the slave, not the master, in any Basel II project. Whether a bank is trying to build its own systems or has bought in IT contractors, the main problems stem from underestimating the amount of work and insight needed to go from a logical to a physical data model. Having domain skills is important, but having the right technology, data integration skills and methodologies is crucial.

Gathering data from across different asset classes and divisional boundaries, from many source systems, can make up as much as 60-70 percent of the work, in terms of person hours, on a Basel II project. So it is necessary to understand how the number and complexity of your operational systems will impact on the delivery timeline of your Basel II implementation.

It pays to identify the bank's priority requirements and time box these, to ensure that tangible value to the business can be delivered in only a few months. Once pressing issues have been addressed, then you can increase the sophistication of risk management.

There is a need to look at the correlation between risk types and ensure that your solution does not end up operating in risk silos, however this must be balanced against immediate business needs. Existing risk silos also need to be brought together in a carefully managed and prioritized way.

Cost

Building a Basel II solution in-house, bringing in contractors to develop one, or buying off the shelf can be costly if they fail to deliver. Across the industry there has been a wave of second investments in Basel II projects, as first attempts are shelved or reengineered.

The reasons for failure are many, but a common one is that IT is not guided by a strong and clearly defined business component. Banks need to look at the solution from an integrated perspective and not be fooled by a cheap gap analysis followed by massive implementation costs.

If stakeholders can build a comprehensive business case, taking into account all these critical issues, and balance development costs against the benefits of regulatory compliance and better risk management practices, they are much more likely to succeed.

If everyone knows just what is involved in addressing Basel II, and the budget is owned, distributed and controlled properly, the cost of achieving compliance can be contained.

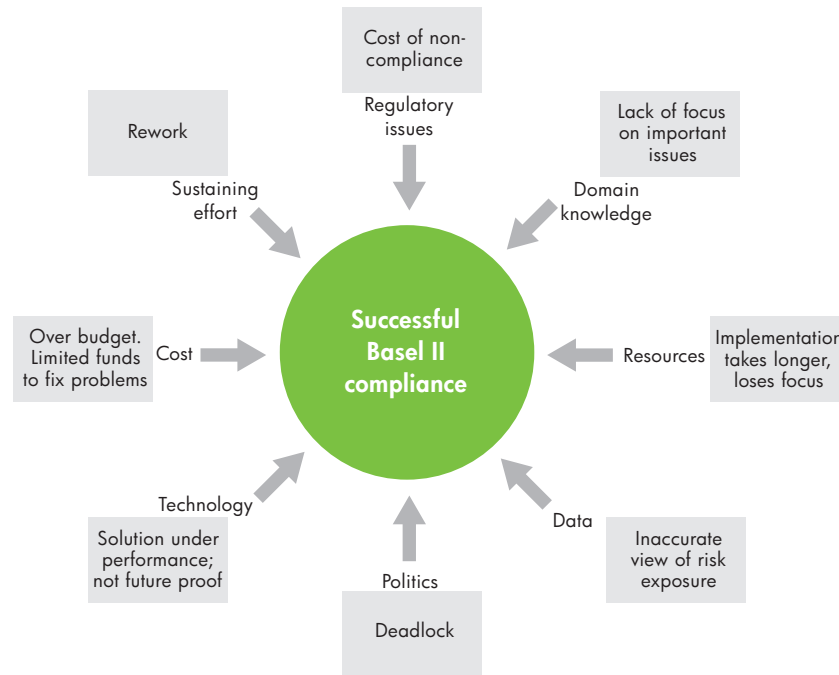
Sustaining effort

Compliance is often seen as a cost burden, so a major requirement for any initiative is that implementation is fast, cost effective and accurate. But by taking a long-term strategic view of compliance, organizations can also address ongoing requirements—whether they are regular audits and reports for existing regulations on a monthly, quarterly or annual basis, or new regulations that require changes to systems and processes. The aim should be to improve efficiency in compliance processes so that recurring costs are minimized.

This can be achieved with the support of a Basel II solution that also embeds best practice risk management. Basel II is here to stay. A culture of risk management should be encouraged, and this culture should be dynamic so that policy and processes can constantly evolve. You need to ensure your solution is integrated into how you do business and has the necessary organizational support to sustain it. More importantly for ongoing compliance, the solution should be built in a way that is eminently scalable, so it can be flexed and adapted to suit changes in business and regulatory environment—even looking ahead to Basel III.

Fig 2. Conclusions

Failure to address these critical issues can have significant consequences.



Conclusions

- Your choices are complex and domain knowledge is essential
- The technology is complex, don't underestimate it
- Start with a manageable part, get it working then scale up
- Atomic data, standardized across the business is essential for one version of the truth
- Have a strong leader
- Don't abdicate responsibility to external vendors
- Educate up as well as down the command structure
- A Basel II implementation is complex. Start early
- Focus on best practice risk management so that compliance is a by-product
- Data drives best practice risk management, not analytics
- Look for strategic capability that can be implemented tactically based on business priorities and organizational readiness

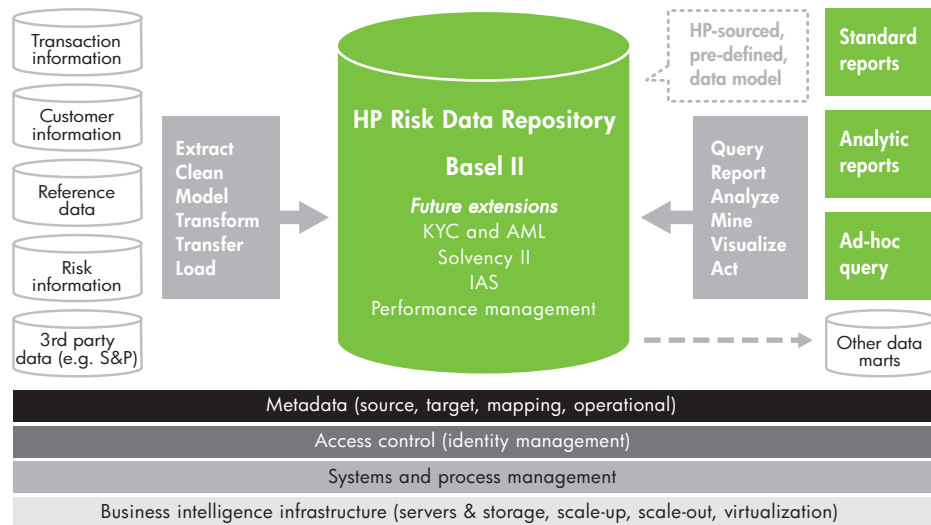
The HP-Quadrant approach

There are a number of Basel II solutions on the market, but most of these are essentially analytic and reporting tools. They don't address the underlying data. As the organization goes looking for data, if they try getting it directly from operational systems, it will impact the day-to-day operations of the bank, and the data will be very difficult to correlate and integrate.

Based on years of experience in banking and data integration, HP and Quadrant Risk Management recommend that a better approach is to extract risk data from operational systems and structure it in an enterprise-wide risk data repository for analytical processes. This repository should contain data models that support full integration and correlation of risk across the enterprise, for all categories of risk—credit, market and operational. This should provide a more granular level of risk understanding, enabling the organization to better pinpoint key exposures.

Quadrant's solution for Basel II compliance, **B²**, has been designed by bank risk management professionals and finance technology experts. The solution is modular, recognizing and complementing the banks you have already undertaken in this area. **B²** is based on open architecture—maximizing investment in existing technology and minimizing the financial impact of compliance. The solution provides a framework that enables banks to comply with the new Accord and appropriate international best practice.

Fig 3. The HP-Quadrant approach
Enterprise Risk Management
solution overview



The HP Risk Data Repository, based on Quadrant's B², has a comprehensive data model that provides for structured storage of all categories of risk data, at a highly granular level. It can be dynamically mined for risk analysis purposes, and is technology independent. It works with any commercially available database, any operating system, any extract/transfer/load (ETL) tool, and any metadata manager.

The solution generically identifies data that is predictive of behavior, which drives data and process gap analysis for best practice risk management. Counterparty hierarchy is understood, and the solution can show correlation across market, credit and operational risks.

Together, HP and Quadrant offer even more for risk management than a data warehouse and Basel II data model. We also provide calculators and analytical models, regulatory and MIS reporting templates and business intelligence functionality, and a range of services to assist in the development of a comprehensive, enterprise-wide risk management framework. We can also provide assistance with the development of custom reports, portals and executive dashboards.

About Quadrant Risk Management

Quadrant Risk Management International Ltd. is an independent, international risk management consultancy with more than 14 years' experience. Quadrant deals with regulatory compliance for credit, market, reputation and operation risk, as well as corporate governance and social responsibility, in the financial services industry worldwide—working across strategic, policy and process levels.

The HP advantage

HP has a rich heritage in the financial services industry that goes back more than three decades and is reflected in a significant presence in all of the top 200 banks, all of the top 50 brokerages, all 100 of the world's major stock and commodity exchanges, and all of the top 25 insurance carriers.

HP works with Quadrant to deliver the enterprise risk management component of the HP Compliance Suite for Financial Institutions. This is a collection of HP products, market offerings, and services that help reduce the cost of achieving and sustaining regulatory compliance, and improving risk management capabilities. The HP compliance suite helps organizations achieve compliance quickly through pre-packaged and integrated solutions with industry-leading domain expertise.

For more information, go to www.hp.com/go/FSI

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4AA0-2959ENW, November 2005

