## Risk Aggregation and Reporting More Than Just a Data Issue

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## **Current Situation**

Many banks feel overwhelmed by the sheer volume of regulation that is coming their way. It is not surprising, therefore, that when the Basel Committee on Banking Supervision (BCBS) consultative paper, "Principles for effective risk data aggregation and risk reporting" was published in June 2012 it raised a number of concerns. In January 2013, the Basel Committee released a final set of "Principles for effective risk data aggregation and risk reporting" to enhance banks' ability to identify and manage bank-wide risks. This document helps address some of the possible concerns raised and it also brings up new elements for consideration. The regulation outlines four key topics as shown in Figure 1. These are supported by 14 high-level principles, intended to strengthen banks' risk data aggregation capabilities and risk reporting practices. Globally Systemically Important Banks (G-SIBs) must implement these principles by January 2016 and are expected to start making progress towards effectively implementing them from early 2013. National supervisors have the discretion to apply these principles to Domestically Systemically Important Banks (D-SIBs) as well.

#### Figure 1. Principles of Data Aggregation and Risk Reporting at a Glance

| Basel  | Кеу Тор                           | ics                          | Summary of Four Key Topics   |
|--|-----------------------------------|------------------------------|--|
| Committee<br>on Banking<br>Supervision   | Overarch<br>governai<br>infrastru | nce and                      | A bank should have in place a strong governance<br>framework, risk data architecture and IT infrastructure.<br>These are preconditions to ensure compliance with these<br>principles. In particular, a bank's board should oversee<br>senior management's ownership of implementing all the<br>risk data aggregation and risk reporting principles and the<br>strategy to meet them within a timeframe agreed to by<br>their supervisors.  |
| Principles<br>for effective<br>risk data<br>aggregation<br>and risk<br>reporting | Risk data<br>capabilit            | a aggregation<br>ies         | Banks should develop and maintain strong risk data<br>aggregation capabilities to ensure that risk management<br>reports reflect the risks in a reliable way (i.e., meeting<br>data aggregation expectations is necessary to meet<br>reporting expectations). Compliance with these principles<br>should not be at the expense of each other. These risk<br>data aggregation capabilities should meet all principles<br>simultaneously.  |
|  | Risk repo<br>practice             |                              | Accurate, complete and timely data is a foundation for<br>effective risk management. However, data alone does not<br>guarantee that the board and senior management will<br>receive appropriate information to make effective decisions<br>about risk. The right information needs to be presented<br>to the right people at the right time. Reports based on<br>risk data should be accurate, clear and complete. They<br>should contain the correct content and be presented to the<br>appropriate decision-makers in a time that allows for an<br>appropriate response. |
|  |                                   | ory review,<br>d cooperation | Supervisors will have an important role to play in<br>monitoring and providing incentives for a bank's<br>implementation of, and on-going compliance with these<br>principles. They should also review compliance with<br>the principles across banks to determine whether the<br>principles themselves are achieving their desired outcome<br>and whether further enhancements<br>are required.   |

Source: Accenture analysis based upon information from the "Basel Committee on Banking Supervision. Principles for effective risk data aggregation and risk reporting"

Overall, the industry responded in a positive way, acknowledging the benefits of improving banks' risk data aggregation capabilities and aligning their goals to that effect.

The current regulation concerning enhancement of data process and IT systems for measuring and reporting risk follows a number of papers and regulations which emphasize the need for banks to enhance their data and IT infrastructures. Despite the slight unease expressed by the industry, the proposed timeline for the implementation of the principles has not changed and 2016 remains the target completion date, demonstrating the importance assigned by the regulators to this initiative. These enhancements need to take place along with the implementation of regulations addressing reporting, data and IT infrastructure. The banks are facing competing priorities, including multiple new regulations – such as Basel III Reporting Rules, Recovery and Resolution Plans (RRP), Common Reporting (COREP), Financial Reporting (FINREP), Foreign Account Tax Compliance Act (FATCA),

#### Figure 2: Impact of the Data Aggregation and Reporting Regulation

The new regulation touches many points across banks' operating models



and U.S. generally accepted accounting principles (GAAP) – as well as business-model changes that firms must undertake.

All of these require significant financial and human capital investments to deliver long-term benefits and all make demands on the same limited resources. As banks deal with regulatory change, they also are grappling with broad changes in their business (see Figure 2). Responding to difficult and volatile economic conditions, some are exiting certain business lines or geographies, changing the profile of their portfolios or moving to new products.



## Objectives – Basel Risk Data Aggregation and Risk Reporting

The final set of "Principles for effective risk data aggregation and risk reporting" is intended to strengthen banks' risk data aggregation capabilities and internal risk reporting practices. The principles apply to "risk management data", which in the context of group risk management also impacts the use of P&L, regulatory capital relevant measures such as riskweighted assets (RWA), balance sheet, and cash as integral and complementary data. They also apply to internal risk management models and regulatory capital models.

Implementation is expected to enhance risk management and decision-making processes at banks. The adoption of the principles is expected to support the following six objectives:<sup>1</sup>

#### Table 1: Objectives - Risk Data Aggregation and Risk Reporting

| Objectives            | Summary of Objectives  |
|-----------------------|--|
| Infrastructure        | Enhance the infrastructure for reporting key information,<br>particularly that used by the board and senior management<br>to identify, monitor and manage risks.     |
| Decision-making       | Improve the decision-making process throughout the banking organization.   |
| Legal entity & global | Enhance the management of information across legal<br>entities, while facilitating a comprehensive assessment of<br>risk exposures at the global consolidated level. |
| Reduce losses         | Reduce the probability and severity of losses resulting from risk management weaknesses.   |
| Timeliness            | Improve the speed at which information is available and hence decisions can be made.   |
| Strategic planning    | Improve the organization's quality of strategic planning and<br>the ability to manage the risk associated with new products<br>and services.                         |

<sup>1.</sup> Basel Committee on Banking Supervision. Principles for effective risk data aggregation and risk reporting, Page 1, Introduction, item 4. Access at: http://www.bis.org/publ/ bcbs239.htm

## Risk Data Aggregation and Risk Reporting – Summary of Principles<sup>2</sup>

The Basel Committee provides an outline of the four key topics, underpinned by Fourteen high-level principles.

Table 2: Risk Data Aggregation and Risk Reporting – Summary of Principles

| Кеу Торіс                                       | Principles  |  |
|---|---|--|
| Overarching<br>governance and<br>infrastructure | 1. Governance   | Risk data aggregation capabilities and risk reporting practices should be subject<br>to strong governance arrangements consistent with other principles and guidance<br>established by the Basel Committee.  |
|   | 2. Data architecture<br>and IT infrastructure   | Data architecture and IT infrastructure should be designed, built and maintained to fully support risk data aggregation capabilities and risk reporting practices not only in normal times but also during times of stress or crisis.  |
| Risk data<br>aggregation<br>capabilities        | 3. Accuracy and integrity   | A bank should be able to generate accurate and reliable risk data to meet normal<br>and stress/crisis reporting accuracy requirements. Data should be aggregated on a<br>largely automated basis so as to minimize errors.   |
|   | 4. Completeness   | A bank should be able to capture and aggregate all material risk data. Data should be available by business, legal entity, asset type, industry, region and other groupings, permitting identification of concentrations and emerging risks.   |
|   | 5. Timeliness   | A bank should generate aggregate and up-to-date data in a timely manner.<br>The timing will depend upon the nature and potential volatility of risks, and its<br>criticality to the overall risk profile of the bank in normal and stress conditions.  |
|   | 6. Adaptability   | A bank should be able to generate aggregate risk data to meet a broad range of on-demand, ad hoc risk management reporting requests, including requests during crises and requests to meet supervisory queries.  |
| Risk reporting<br>practices                     | 7. Accuracy   | Risk management reports should accurately and precisely convey aggregated risk data and reflect risk in an exact manner. Reports should be reconciled and validated.   |
|   | 8. Comprehensiveness  | Risk management reports should cover all material risk areas. The depth and scope of these reports should be consistent with the size and complexity of the bank's operations and risk profile, and the requirements of recipients.  |
|   | 9. Clarity and usefulness   | Reports should communicate information in a clear and concise manner. They should be easy to understand yet comprehensive enough to facilitate decision- making, including information tailored to the needs of recipients.  |
|   | 10. Frequency   | The board, senior management, and other recipients should set the frequency of report production and distribution. Frequency requirements should reflect their needs, the nature of risks, and the speed at which risks can change.  |
|   | 11. Distribution  | Risk management reports should be distributed to the relevant parties while ensuring confidentiality is maintained.  |
| Supervisory<br>review, tools and<br>cooperation | <ul> <li>12. Review</li> <li>13. Remedial actions</li> <li>&amp; supervisory</li> <li>measures</li> <li>14. Home/Host</li> <li>cooperation</li> </ul> | Note: Principles 12, 13, and 14 apply to National Supervisors. Supervisors should periodically review and evaluate a bank's compliance with the eleven principles above. They should have and use the appropriate tools and resources to require effective and timely remedial action by a bank to address deficiencies in its risk data aggregation capabilities and risk reporting practices. They should cooperate with relevant supervisors in other jurisdictions regarding the supervision and review of the principles, and the implementation of any remedial action if necessary. |

Source: Accenture analysis based upon information from "Basel: Risk Data Aggregation & Risk Reporting"

2. Basel Committee on Banking Supervision. Principles for effective risk data aggregation and risk reporting, Page 4, item 20, Page 6, Page 8, Page 11 and Page 14. Access at: http:// www.bis.org/publ/bcbs239.htm

## **Observations on the Industry's Challenges**

The final set of "Principles for effective risk data aggregation and risk reporting" outlines some high-level guidance and implementation themes.

The Supervisors issued the original consultative paper for the "Principles for effective risk data aggregation and risk reporting" in June, 2012, which gave the industry the opportunity to discuss and reflect on the potential impact of the proposed changes.<sup>3</sup> Overall, the industry is supportive of the BCBS approach and has a number of internal programs under way to enhance their capabilities in risk data aggregation and risk reporting.

However, most of the banks still face a number of challenges as they move toward implementation of co-dependent regulations. These include:<sup>3</sup>

### Board Governance and Oversight

The new regulation calls for more active involvement of the board of directors, which is seen as a tenet of good corporate governance. As envisioned by the new regulation, the board is responsible for oversight while senior management is responsible for daily operations including risk and controls. The regulation requires the board to not only understand the content of risk reports but to ensure that it receives comprehensive information which is pertinent and accurate to the risks of the firm. The board should also challenge and review risk appetite and business plans and be assured of the risk controls in place for critical business.

## Enhancing Existing Capabilities

The new regulation calls for the implementation or enhancement of capabilities such as an "independent validation unit", automated reconciliation and other business functions which are critical to the production of risk reports that accurately represent the aggregate risks across the enterprise. The creation of new business functions such as the "independent validation unit" with specific IT, data and reporting knowledge will impose extra costs and operational complexity for the banks. Similarly, "automated reconciliation" with single source of data requires massive consolidation of data sources, which cannot be easily achieved in the context of the current regulatory changes. The regulators should allow some flexibility in the way the banks can organize themselves to address such requirements.

3. IBFed (International Banking Federation) Response on Data Aggregation and Risk Reporting, 24/09/2012. Accessed at: http://www.ibfed.org/news/ibfed-response-on-dataaggregation-and-risk-reporting-24-09-2012

### **Control Framework**

The new regulation calls for enhanced capabilities within the banks to manage the data quality of the risk reports, so that the data is materially complete, with any exceptions identified and explained. Along with other requirements for ondemand reporting and ad-hoc reporting, this will require a flexible infrastructure and an operational environment that can meet demands for high-frequency reporting during crises. Establishing such a framework necessitates significant change in banks' operating models accompanied by considerable investment. Similarly, the regulations call for "forward looking" capabilities to provide early warnings of any potential breaches of risk limits, which will require the development of new quantitative and qualitative methods and processes to enable the banks to anticipate problems and provide a forward looking assessment of risk. Banks may want to consider an approach that would allow for reasonable levels of controls and response to risk reporting, as this may be more appropriate.

### Implementation of the Principles

The regulations call for an implementation of the principles by 2016, a timeframe which is demanding when considered within the context of other regulations banks are currently implementing. The challenge is further compounded by "simultaneous adoption" or the need to apply the principles on a consistent basis across the group. The banks need to satisfy both the home country and host country supervisors, which can also increase the difficulty of implementation. In addition, the deadline for IT implementation falls within similar deadlines for other regulations, making significant demands on existing bank resources. Banks should be accorded some flexibility for the implementation of these principles to reflect the multiple areas needing change.

## IT/Infrastructure Enhancement

The enhancement of banks' IT and infrastructure capabilities (including upstream and risk systems, risk data and reporting) requires significant investment and change management. The banks are implementing a number of change programs and the challenge of aligning these efforts to the rest of the regulatory change portfolio is considerable. Moreover, the banking business is changing its focus in terms of products, clients and geographies which puts additional strain on regulatory change management projects.

## Formulating a Regulatory Response

The Regulators' overriding objective is to establish financial stability. The principle-based approach defined in the Basel Committee report was developed in response to the failures of the industry during the financial crisis. In particular, the industry demonstrated insufficient capabilities to aggregate risk exposures and to identify risk concentrations quickly and accurately, at the group level and across all portfolios and legal entities. The implementation of these principles can help provide strong foundations for banks' resolvability, improved governance, improved business control, enhanced strategic decisionmaking and, ultimately, increased profitability.

Banks may want to consider the Basel Committee report in the context of other international initiatives which are underway and that make concrete progress in strengthening their data aggregation capabilities. These include the Financial Stability Board (FSB) initiatives related to development of common data template for G-SIFIs (systemically important financial institutions) to address key information gaps identified during the crisis such as bilateral exposures and exposures to countries/ sectors/instruments; a public/private sector initiative to develop a Legal Entity Identifier (LEI) system; and other initiatives related to data standards, such as reporting for RRP, FINREP, COREP and finally IFRS (international financial reporting standards) and FATCA.

## Data as the Central Support for Risk Strategy

The BCBS regulation has a strong emphasis on data aggregation capabilities. This is a very specific concern and explores the organization's ability to manage its risks properly and ensure that they align with the business strategy. The regulators clearly defined the term "risk data aggregation" as "defining, gathering and processing risk data according to the bank's reporting requirements to enable the bank to measure its performance against it risk tolerances/appetite".<sup>4</sup>

Risk appetite is closely interlinked to the business strategy and, together with stress testing and risk/return, helps form the framework for implementing and monitoring the business strategy. The business and risk strategy requires a process framework, which encompasses multiple functions from front office to risk and reporting. The risk aggregated data depend on the banks' divisional operations, risk controls, governance and capabilities. Banks may want to recognize the importance of the new regulatory demands given their wider focus and consider how to address this across the different dimensions of governance, risk management and control, and operations and IT capabilities.

4. BCBS. Principles for effective risk data aggregation and risk repo Page 2, Definition. Access at: http://www.bis.org/publ/bcbs239.htm

Figure 3: Business Strategy and Risk Appetite





**Risk and Return** 

ource: Accenture

## Implementation Themes and their Impact

Although different banks are working towards improving their risk data aggregation capabilities, they may want to consider enhancing and/or changing their existing capabilities, or implement new capabilities.

We have identified a number of themes emerging from these new regulations, and which banks may want to explore as they consider actions to fill regulatory gaps. These themes include:

### Inter-linkage

Risk aggregation capabilities need to extend across the legal entities and divisions of the banks. This means changes for local governance and for the board, as well as risk management controls and tools and IT infrastructure.

## Simultaneous Adoption

Capabilities for sound risk data aggregation and reporting principles need to be implemented across the organization simultaneously, which requires strong coordination between the group and the legal entities.

### Risk control

Where there are trade-offs, banks may want to consider increasing their visibility and help factor the impact of such tradeoffs into decision making.

### Materiality

Banks may choose to consider any risks that have material impact upon the overall exposure of their business, possibly extending reporting into items which affect the balance sheet.

#### Forward-looking and early warnings

Banks may also give thought to developing capabilities such as early warning systems which can help forecast potential breaches of risk limits that can exceed risk tolerance. This may require the development of new systems and enhancements to IT capabilities and other data which would ultimately percolate through various divisions.

### Incomplete data

Using incomplete data to implement processes and procedures or to support expert judgment can create challenges. Banks may consider how this could impact their risk analysis and reporting operations, as more controls, resources and additional processes would be implemented. They may also want to explore how this could increase operational costs and IT demands across the enterprise.

The themes discussed above help provide a general framework for regulatory implementation, although the focus and effort will vary from bank to bank. Banks have already embarked on some of these changes and are making progress; however, they may want to approach the full implementation of the BCBS principles as an orchestrated response from the group level downwards, with strong program execution governance and the careful leveraging of internal resources.

Finally, banks may want to also consider how the implementation of these principles – which will inevitably change the operating model of the bank – could introduce volatile operational risks.

#### Table 3: Implementation Themes

| Implementation Themes              | Description of Themes   |
|------------------------------------|---|
| Inter-linkage                      | High quality risk management reports rely on the existence of strong risk data aggregation capabilities, and sound infrastructure and governance ensures the information flows from one to the other. Risk data aggregation capabilities and risk reporting practices are clearly inter-linked and cannot exist in isolation.   |
| Simultaneous adoption              | Banks should meet all risk data aggregation and risk reporting principles<br>simultaneously. However, trade-offs among principles could be accepted in<br>exceptional circumstances such as urgent/ad hoc requests for information on new<br>or unknown areas of risk. There should be no trade-offs that materially impact risk<br>management decisions. Decision-makers at banks, in particular the board and senior<br>management, should be aware of these trade-offs and the associated limitations or<br>shortcomings associated.                         |
| Policies and procedures            | Banks to have policies and processes in place regarding the application of trade-offs.<br>Banks should be able to explain the impact of these trade-offs on their decision-<br>making process through qualitative reports and, to the extent possible, quantitative<br>measures.  |
| Materiality                        | In applying materiality*, banks will take into account considerations that go beyond<br>the number or size of the exposures not included, such as the type of risks involved,<br>or the evolving and dynamic nature of the banking business. Banks should also<br>take into account the potential future impact of the information excluded from<br>the decision-making process. Supervisors expect banks to be able to explain the<br>omissions of information as a result of applying the materiality concept.  |
| Forward-looking and early warnings | Banks should develop forward-looking reporting capabilities to provide early warnings<br>of any potential breaches of risk limits that may exceed their risk tolerance/appetite.<br>These risk reporting capabilities should also allow banks to conduct flexible and<br>effective stress testing capable of providing forward-looking risk assessments.<br>Supervisors expect risk management reports to enable banks to anticipate problems and<br>provide a forward-looking assessment of risk.  |
| Incomplete data                    | Expert judgment may occasionally be applied to incomplete data to facilitate<br>the aggregation process, as well as the interpretation of results within the risk<br>reporting process. Reliance on expert judgment in place of complete and accurate<br>data should occur only on an exception basis, and should not materially impact the<br>bank's compliance with the principles. When expert judgment is applied, supervisors<br>expect that the process be clearly documented and transparent so as to allow for an<br>independent review of the process. |

\* Materiality (as defined by Basel) is the view that data and reports can exceptionally exclude information only if it does not affect the bank's decision-making process (i.e., decision-makers, in particular the board and senior management, would have been influenced by the omitted information or made a different judgment if the correct information had been known).

Source: Accenture analysis based upon information from "Basel: Risk Data Aggregation & Risk Reporting'

## **Implementation Framework**

The regulators expect the G-SIBs subject to the 2016 timeline to start making progress towards effective implementation of the principles, starting in early 2013. The banks are required to perform a self-assessment exercise and define plans for the enhancement of their capabilities, which they would share with the home supervisors.<sup>5</sup> Considering the other regulatory initiatives that are taking place concurrently (Basel III, Dodd-Frank, FATCA and others) banks may also give thought to ensuring that the new program aligns, leverages and complements the initiatives within the bank.

As the implementation of the risk aggregation and reporting principles is far reaching within the group, a review of the effective principles within the appropriate context may be considered.

We have developed a framework for implementing the BCBS principles consisting of the following components (see Agile Risk Control Framework):

- Governance and Risk Control
- Agile Risk Control Framework
- Indicators and their Aggregation
- Early Warning

Risk and control governance is reflected in an agile framework. This can allow risk and control to adapt to their new role of helping to improve oversight and accountability for risk and strategy. With an emphasis on the operating effectiveness of the board and its ability to challenge and help control the management of risk exposures, as well as its alignment to the organization's risk appetite. (Figure 3).

#### Figure 3: Agile Risk Control Framework

#### Risk Monitoring and Control – Emerging Practices and Focus Areas

Governance and Risk Control

Board and Senior Management to take ownership of risk change programs, compliance results and risk appetite
Embed risk culture also with appropriate targets based on risk metrics, affecting service lines and controlling functions

#### Agile Risk Control Framework

Simplify the control framework, reaffirming the role of 2nd line of defence
Push controls to 1st line of defence promoting cross checking while detailed results are available for 2nd line of defence

### Indicators and their Aggregation MI and reporting responsibilities (indicators and aggregation) moved to the 2nd line of defence

#### Early Warning

• New efforts to invest in early warnings tools (EWT) enabling a better forwardlooking reach and allowing sufficient time to address the emerging risk situation



- Governance and Risk Control is reflected in an agile framework
- The Risk Control Framework includes appropriate indicators and the capability to help aggregate them to the right level in order to be meaningful inside the organization
- Forward-looking early warning mechanism are developed to help provide appropriate advance notice about events that still have to come

5. Basel Committee on Banking Supervision. Principles for effective risk data aggregation and risk reporting, Page 16, Section V, Implementation timelines and transitional arrangements, item 88. Access at: http://www.bis.org/publ/bcbs239.htm

Risk measures and their aggregation include key measures that cover on- and off- balance sheet items. Aggregated to the appropriate level in order to be meaningful inside the organization, leading, for example, to risk measures that are reconcilable to financial statements or other resources.

Early warnings are developed to help provide appropriate advance notice of events that might have an impact on the banks' resolvability.

Finally, all these components are integrated into an Agile Risk Control Framework. This can provide a platform for helping to implement the risk aggregation principles within the organization, balancing shortand long- term benefits and change while also helping to enhance capabilities in risk control and risk IT infrastructure.

This approach will deliver short-term benefits, such as the ability to better identify and monitor risks, while improving the speed of delivering information to key stakeholders. This will help improve overall decision-making. Successive enhancements will help improve the organization's ability to align its strategic planning to its risk appetite and better manage its new products and risk services while ensuring compliance.

## Conclusion

The BCBS "Principles on Data Aggregation and Risk Reporting" have been finalized with the current compliance date of 2016, which sets a demanding goal for globally significant important financial institutions. As banks mobilize to implement the principles, they may find themselves also balancing demands for other regulatory implementations, addressing changes in the current business landscape and improvements in the effectiveness of their expenditures.

As banks explore how to properly implement these principles, consideration should be given to the application of a sound and robust risk appetite framework aligned to the business strategy. The BCBS principles are intended to help strengthen the bank's risk data aggregation capabilities and internal risk reporting practices.

However, a closer examination of how these principles might be implemented points to a number of areas for possible improvement.

#### **Board Governance**

More responsibility and accountability for the board as it is expected to be "fully aware" of any limitation on data aggregation. Banks may want to consider a new operating model for the group and its legal entities, and between the board and its risk function(s).

As the board improves the enterprise's oversight and accountability over risk strategy for all entities and all material business activities, banks may want to consider how to educate on risk and the management approach taken by the firm. Another area of consideration is the composition of new risk committees to oversee the implementation of the risk strategy.

Essential to performing this role is the enterprise's risk reporting capabilities which can help deepen the organization's line of sight by offering the board access to robust risk reports into the completeness, frequency and comprehensiveness of material risks they face.

#### **Operating Effectiveness**

As banks explore their options, they may want to give thought to meeting all risk aggregation and reporting principles simultaneously which calls for new functional distribution of risk management and reporting. As the regulators call for the board and the senior management to be aware of the trade-offs and limitations across the implementation of the different principles, establishing standards between "home" and "host" entities is something banks may want to consider.

#### Risk Management / Control

The quality of the risk reporting information, depends upon the quality of the risk control functions, the risk management and the client related processes. A more robust Risk Appetite Framework, with a stronger role for the Risk Management function across the organization is an approach banks may want to consider.

#### Capability Enhancement – Risk Analytics and Reporting

As banks address this issue, more holistic data management and forecasting capabilities and risk reporting infrastructure are areas of attention. Though these enhancements would vary across different entities, risk types and business lines, banks may want to give thought to how they could be integrated within the affected functions. Also of interest are the development of new applications which can help anticipate possible problems and provide a forward looking assessment of the risk.

### References

#### **Key Topics**

Overarching Governance and Infrastructure, Risk Data Aggregation Capabilities, Risk Reporting Practices, Supervisory Review, Tools and Cooperation.

#### Principles

Governance, Data & IT Architecture, Accuracy & Integrity, Completeness, Timeliness, Adaptability, Reporting Accuracy, Comprehensiveness, Clarity and Usefulness, Frequency, Distribution, Supervisory Review, Remedial Actions, Home /Host cooperation.

## See IIF-McKinsey report on Risk IT and Operations

Strengthening Capabilities, June 2011, and IIF-Ernst & Young report on Progress in Financial Services Risk Management, June 2012.

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Accenture Risk Management consulting services work with clients to create and implement integrated risk management capabilities designed to gain higher economic returns, improve shareholder value and increase stakeholder confidence.

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