Managing Risk Is Managing for Profit

Risk comes from not knowing what you're doing.

Warren Buffett, 1930-, American investment entrepreneur

Banking is about managing risk across multiple risk types. In fact, the bank's raison d'etre is to accept structured uncertainty and manage the associated risks with the goal of capitalizing on these risk differences to earn profits. The skill with which the bank balances alternative risk/reward strategies will determine its ability to deliver on shareholder returns. However, in a market environment where competition, globalization, market volatility, and structural change are increasing, banks need to manage their risks even better and with greater transparency. In addition, the Basel II requirements have galvanized financial institutions across the world to re-evaluate the role of risk management.

At one level, banks need to assess credit and operational risk and use empirical transaction data to confirm that reserves are set correctly for balance sheet capital contingencies. The collateralization of mortgage and consumer loan portfolios into the secondary market is an example of market risk management. Today there is great debate around the global parameters that monitor market risk and support or maintain market stability. Given the various risk parameters, the key is to identify where and how a bank can manage proactively its risks and various assets – physical, financial, and human – to its advantage.

Risk mitigation strategies are today a top concern for the board, senior executives, CFOs, and risk managers. However, while risk management is an accepted priority, it also represents an unenviable task that can become very political, depending upon the culture. The challenge is implementing an integrated approach that can be ingrained in the organization and its management practices. Without a coordinated risk management strategy, organizations will continue to struggle with repeated policy iterations before risk handling procedures and controls are efficiently aligned.

Banks need to tackle three important barriers to ensure a successful, integrated risk management process:

Barrier 1: ***Lack of consistent measurement methodology***

Risk measurement is complex, and no methodology will accurately capture the full picture. Any risk evaluation process will, by definition, be flawed, and financial institutions need to remain open to new learnings as economic, demographic, market, or other conditions change. Over time and through experience, the bank will gradually hone in on methods that better identify risk patterns and adapt its procedures accordingly. However, the issue of risk measurement is further complicated by the lack of consistency across various institutions' approaches, and this can have a direct impact on competitiveness. For example, credit scoring methods may differ among mortgage providers; an application that passes in one institution may fail in another. The more detailed and extensive the risk assessment, the more a bank can devise granular strategies based on borrower segmentation.

Another measurement challenge flows from the above example. By standardizing the risk management process across the enterprise, banks may limit their business flexibility and the ability of front-line troops to identify opportunities for future growth. The danger in standardization is reducing the options down to a common denominator that does not apply in every market sub-segment. More agile competitors can move in with finely tailored offerings for certain demographic groups or micro-segments, posing a serious competitive threat. In such situations, an overly rigid and standardized methodology in determining risk profiles will lead to lost opportunities. As market opportunities continue to fragment due to intense competition, banks must balance risk minimization with commercial relevance.

> ***With Cognos, we've gone from a situation where we've had annual reviews and a quarterly interim review of the exposures, to where we can actively monitor exposures daily to get within limits.***
>
> Edmund Ruppmann, Director of Credit Risk Reporting, CitiGroup

Barrier 2: ***Hidden information gaps in the quantification of risk***

Three generic risk mitigation approaches exist:

1. Risks can be eliminated or avoided – e.g., hedging, asset-liability matching
2. Risks can be transferred to other entities – e.g., asset sale, syndication, derivative hedging
3. Risks can be actively managed.

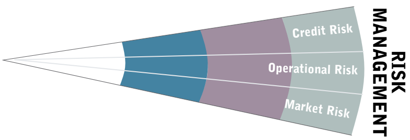
To the extent that an institution has a good understanding of its risks and exposures – where, what, and how much – it can be proactive in its risk mitigation strategy. However, such transparency is not easy to come by without significant investment in systems, analytical tools, and sophisticated modeling techniques. Frequently risk prevention measures are brought in after the event, in a reactive fashion. To what extent is the risk manager fully aware of the existing risks? Are business units still making decisions without coordinating and communicating exposures to the risk managers? These information gaps represent an unknown risk exposure, and the bank is not even in the position to decide how to mitigate these risks. As products and services become more complex to address new market segments, the challenge is to enhance and keep up with the necessary risk information flow. Without serious management attention, investment, and effective execution, success is likely to remain elusive. This leads naturally to the next barrier:

Barrier 3: ***Lack of integrated risk procedures that are "owned" by specific functional roles and embedded in the organization***

Active risk management is also about ensuring that the full organization identifies with and takes ownership of its own risk mitigation responsibilities. A risk management function cannot sit in its organizational silo and be disconnected from the day-to-day business. Pushing risk awareness and procedures down into various functional roles will help establish a coordinated and proactive approach to risk management. In fact, different functional roles are directly associated with certain types of risk, including operational risk. The greater their ability to communicate risk concerns, identify risk patterns, and support the development of appropriate risk controls, the more effective the risk management capabilities will be. An effective risk management process that is embedded in the organization and well executed will deliver higher returns and a competitive advantage.

Risk management combines many types of risk, such as credit risk, operational risk, interest rate risk, liquidity risk, price risk, compliance risk, foreign exchange risk, reputation risk, country risk, management risk, etc. For the purpose of simplicity, this discussion will focus on three decision areas:

- **Credit Risk ➔** The possibility of a loss due to a failure to meet contractual debt obligations
- **Operational Risk ➔** The risk of loss resulting from internal processes, systems, and people, or from external events
- **Market Risk ➔** The risks associated with various classes of assets and liabilities.



Using Cognos enables us to add much needed context around our data. We are able to quickly answer key business questions to determine our level of risk in a particular country or counterparty dimension and quickly make decisions to protect ourselves. Whether you are looking for a high-level portfolio ceiling view or a more detailed transaction-level analysis, Cognos provides us with a powerful solution that lets us quickly and easily access and understand information on risk exposure.

Patrick Hendrikx, Head of Risk Datamart and Business Intelligence Solutions, UBS AG

Credit Risk

Generally credit risk is associated with a lending activity and is typically incurred when a loan is not repaid in part or in full. Credit risk is also associated with holding bonds and other securities. The credit risk is the risk of a decline in the credit standing of a counterparty. Banks use credit-scoring models to rank potential and existing customers and then decide what strategies are appropriate. Some banks might accept higher risk as part of an aggressive loan growth strategy; others may adopt a more conservative policy. Whatever the credit strategy, it should be fully aligned with corporate strategy. Management needs access to detailed internal data to track progress against agreed-upon goals, using metrics such as the ratio of non-performing loans to total loans. Clearly, if the proportion of non-performing loans increases, managers need to perform an in-depth evaluation to understand why. Have general or regional economic conditions shifted sufficiently to warrant a re-assessment of the bank's credit risk exposure? What action should be taken with existing or new customers, for example, higher interest rates to reflect higher risk? The more segmented and detailed the customer information, the more flexible and focused the possible strategies will be.

GOALS	METRICS		DIMENSIONS
Capital Ratio Credit Risk Exposure Rating Loan Loss (Write-down) ($/%)	Loan ($/#) Loan Participations (#) Loan Points Loan Servicing Expense ($) Loan Syndications (#) Bad Loan ($/%) Min. Balance Required Min. Interest Rate Collateral ($) Deposit $ Growth (%) Loan $ Growth (%) Loan Loss Reserve (%) Loans: Deposits Ratio Credit Investigations (#) Appraisals (#) Estimated Loss Incidents (#) Estimated Loss Value ($) Deposits ($) Deposits (#) Interest Expense ($) Fee Income ($) Net Interest Margin (%)	Average Time to Close Portfolio Size Average Loan to Value Delinquency Rate Foreclosure Rate Average Loan Size Internal Risk Rating Number of Losses	Billing Customer Industry Group Industry Category Customer Name Customer Location Region State/Province County Postal Code/Zip Code Fiscal Month Fiscal Year Quarter Month Market Segment Market Segment Micro-Segment Sales Channel Partners Sales Channel Type Sales Partner Sales Organization Sales Region Sales Territory Org. Code

FUNCTION	DECISION ROLES	PRIMARY WORK	CONTRIBUTORY	STATUS
Credit				
	Executives	•		
	Analysts	•		
Risk Management				
	Executives		•	
	Analysts	•		
Sales				
	Executives		•	
Compliance				
	Executives			•
	Analysts		•	
General Management				
	Executives			•
Finance				
	Executives			•

To understand credit risk concentrations and to ensure regulatory compliance, we needed consistent, accurate answers to the identification and classification of risk.

Patrick Hendrikx, Head of Risk Datamart and Business Intelligence Solutions, UBS AG

Operational Risk

According to 644 of International Convergence of Capital Measurement and Capital Standards, known as Basel II, operational risk is defined as "the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events." This includes legal risk, but excludes strategic and reputation risk. In effect, institutions are responsible for establishing adequate safeguards to protect against various operational risks. Basel II defines a number of event categories:

- **Internal fraud** – Misappropriation of assets, tax evasion, intentional mismarking of positions, bribery
- **External fraud** – Theft of information, hacking damage, third-party theft, forgery
- **Employment practices and workplace safety** – Discrimination, workers' compensation, employee health and safety
- **Clients, products, and business practices** – Market manipulation, anti-trust, improper trade, product defects, fiduciary breaches, account churning
- **Damage to physical assets** – Natural disasters, terrorism, vandalism
- **Business disruption and system failures** – Utility disruptions, software failures, hardware failures
- **Execution, delivery, and process management** – Data entry errors, accounting errors, failed mandatory reporting, negligent loss of client assets.

The problem lies in accurately identifying what constitutes operational risk, as it can be part of credit or market risk. For example, if a security sale is wrongly accepted because of a glitch in the electronic trading system, should this be classified as market risk, an operational risk, or a combination of both? To assist in implementing an operational risk process, Basel II provides guidance around three broad methods of capital calculation for operational risk:

- **Basic indicator approach** – based on the financial institution's annual revenue
- **Standardized approach** – based on annual revenue of each of the financial institution's broad business lines
- **Advanced measurement approaches** – based on the bank's internally developed risk measurement framework and prescribed standards (e.g., IMA, LDA, scenario-based, scorecard, etc.).

The operational risk management framework should include identification, measurement, monitoring, reporting, control, and mitigation. The more advanced the methodology, the greater the opportunity to design mitigation strategies. However, whatever the method, successful implementation requires unconditional support from senior management. By breaking down operational risks into specific work process and job roles, it is easier to control, monitor, and mitigate key design factors for any framework.

OPERATIONAL RISK

GOALS	METRICS	DIMENSIONS	
Operational Risk Rating (#) Controls Performance Rating (#) Contingency Testing Score (#)	Business Disruptions (#) System Failures (#) System Downtime (#) System Errors (#) Hardware Failures (#) Accounting Errors (#) Data entry Errors (#) Failed Mandatory Reporting (#) Fiduciary Breaches (#) Account Churning (#) Incidents of Fraud & Theft (#) Scenario Risk Sensitivity U/W - Asset Control Audit Score	Fiscal Quarter Fiscal Year Quarter Organization Division Department Org. Code Controls Objectives Controls Objective Type Control Objective Regulatory Standards Regulatory Standard	Reporting Cycles Cycle Process Activities Risks Risk Types Risk Exposure System Applications Application Test Types Test Types Tests

FUNCTION	DECISION ROLES	PRIMARY WORK	CONTRIBUTORY	STATUS
Risk Management				
	Executives	•		
	Analysts	•		
Compliance				
	Executives	•		
	Analysts	•		
IT / Systems				
	Executives		•	
	Analysts	•		
Customer Service				
	Executives		•	
Operations				
	Executives		•	
Sales				
	Executives		•	
Audit				
	Executives			•
General Management				
	Executives			•
Finance				
	Executives			•

We had to eliminate data silos, and create a process that would allow us to identify and select risk-related data for all divisions (Investment Banking, Global Asset Management and Global Wealth Management and Business Banking), globally.

Patrick Hendrikx, Head of Risk Datamart and Business Intelligence Solutions, UBS AG

Market Risk

Market risks occur when assets and liabilities change value due to changes in market factors. These risks include:

- **Equity risk** – the risk that equity prices will change
- **Interest rate risk** – the risk that interest rates will vary
- **Currency risk** – the risk that the currency exchange rate will change
- **Commodity risk** – the risk of price fluctuations for commodities such as metals, oil, agricultural products, etc.

The key issue is not simply to identify market risk factors, but to quantify the risk and develop approaches or strategies to address them. One common valuation methodology is "value at risk," which looks at the likelihood of an asset's value decreasing over a period of time. Others include shortfall probability, downside risk (semivariance), and volatility. Risk management executives will need to be aware of the inherent strengths, weaknesses, and sensitivities associated with each method. It may also be useful to compare market risk with other risks to understand various risk priorities. For example, how does market risk compare with specific industry risk, which measures industry changes rather than systemic market risk?

Whatever the method, managers who have access to better information on market detail and segmentation will be better equipped to identify and mitigate risk. Only by clearly understanding the various business streams and positions can managers implement an effective risk management strategy. The increasing trend towards market specialization has led many banks to redefine their business strategies and focus on core capability and, by extension, core risk competencies. For example, many banks will actively hedge their portfolio risk to immunize against asset/liability mismatches. Others will focus on building an asset portfolio, which is then securitized and managed by specialists. Depending upon its strategy, a bank can now more effectively decide what market risk it wishes to manage or assume. Risks that fall outside these parameters are avoided by transferring them to a third party.

> ***The team needed to be able to show, more quickly and effectively, how people within Skandia were performing in the business and where the risks lay.***
>
> Ann-Louise Hancock, Head of People Division, Skandia

MARKET RISK

GOALS	METRICS	DIMENSIONS
Price Risk ($/%) Interest Rate Risk ($/%) Economic Risk ($/%)	Political-Economic Risk Rating Economic & Business Trends Rating Foreign Exchange Risk Business Risk Rating Avg. Interest Rate Avg. Spread Risk Sensitivity ($) Fee Risk ($) Options Risk Loans Sold ($) Loans Purchased ($) Loans Serviced ($)	Billing Customer Industry Group Industry Category Customer Name Customer Location Region State/Province County Postal Code/Zip Code Fiscal Month Fiscal Year Quarter Month Market Segment Market Segment Micro-Segment Sales Channel Partners Sales Channel Type Sales Partner Sales Organization Sales Region Sales Territory Org. Code

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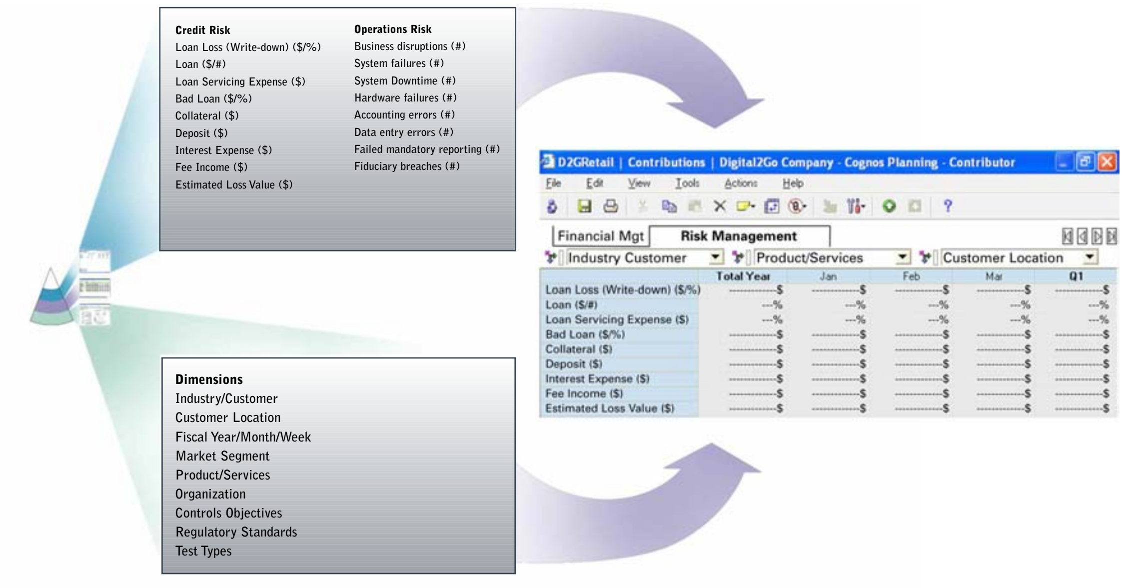

The Credit Risk and Operations decision areas illustrate how the Risk Management function in banks can monitor risk exposure, allocate resources and set plans for future requirements to manage multiple risk types that cascade across the business.