

RISK ANALYSIS



AN IBM COGNOS
PERFORMANCE BLUEPRINT

A WEB-BASED PROCESS FOR
ASSESSING BUSINESS RISK

A COGNOS INNOVATION CENTER
APPLICATION BRIEF

EXECUTIVE SUMMARY

This application brief demonstrates best practices for analyzing various external and structural risks to corporate performance using IBM Cognos 8 Planning. Business risk in the scope of this *Blueprint* includes: Financial, Company Liability, Management, Brand, Competitor, Customer, Industry, Project, Stagnation, and Technology. Implementing this *Blueprint* will enable forward-looking visibility into both divisional and corporate risk analysis. The *Risk Analysis Blueprint* takes planning to a new level by enabling the corporation to analyze and assess risks associated with future performance and to quantify mitigation strategies.

The *Blueprint* and processes described here are generic for risks in any US industry and can be readily configured to support the complexity of risk requirements for any industry across numerous countries.



OVERVIEW

Whether undertaking an annual operating plan or a rolling forecast process, few companies challenge business managers to assess the risks associated with their assumptions, the consequent bottom-line impact should these assumptions prove inaccurate, and the possible strategies to mitigate the consequences.

RISK PLANNING

The *Risk Analysis Blueprint* enables corporations to challenge business managers to assess the level of risk associated with their business plans and assumptions. Business risk is categorized by risk type such as Financial Risk, Brand Risk, and Customer Risk, which are then further divided by risk type such as Currency Risk under the Financial Risk category—one particular division may have a greater risk to currency fluctuations than another, due to a higher level of overseas earnings.

BLUEPRINT OBJECTIVES

The following planning, budgeting, and forecasting objectives are achieved using the *Risk Analysis Blueprint*:

- Analyze risk by division across risk categories.
- Suggest mitigation strategies and the costs associated with those strategies.
- Aggregate risk by sub category at the corporate level.

KEY COGNOS PLANNING BENEFITS

- Flexible and powerful model development. The Cognos Analyst component supports any business planning model or customization of the *Risk Analysis Blueprint*.
- Web-based deployment of models for process workflow, data collection, and consolidation.
 - Real-time workflow.
 - Real-time aggregation.
 - Real-time calculations in the browser for immediate results.
 - Industry leading *what-if* features for the most accurate plans, budgets, and forecasts.
- Scalable architecture with proven deployments to thousands of users.
- Easy links to financial and operational plans facilitating cross-enterprise collaboration.
- Ensured plan accuracy using form-based planning with selection boxes to drive application logic and calculations.

HIERARCHY

It is likely that risk analysis would be done at the divisional level, since different divisions have different risk profiles. It is unlikely that risk analysis would be done at the departmental level.

The screenshot displays the Cognos Enterprise Planning Series 7 interface. At the top, it says 'Welcome - Cognos Enterprise Planning Series 7' and 'Driving effective performance planning.' The user is logged in as 'Administrator'. On the left, there is a 'Reviews' tree with 'Total Company' selected, which includes 'Division 1' through 'Division 5'. The main area shows 'You are a reviewer for:' followed by a table for 'Total Company' and a sub-table for 'Which is made up of:'. Below these is a 'Workflow information for Total Company:' section.

Name	State	Ownership	Reviewer	Last Data Change
Total Company	Incomplete	Administrator	Administrator	2:47:00 PM - Tuesday, June 14, 2005

Name	State	Ownership	Reviewer	Last Data Change
Total Company (All)				
Division 1	Work In Progress	Administrator	Administrator	2:47:00 PM - Tuesday, June 14, 2005
Division 2	Not Started	Administrator	Administrator	2:37:22 PM - Tuesday, June 14, 2005
Division 3	Not Started	Administrator	Administrator	2:37:11 PM - Tuesday, June 14, 2005
Division 4	Not Started	Administrator	Administrator	2:36:59 PM - Tuesday, June 14, 2005
Division 5	Not Started	Administrator	Administrator	2:36:48 PM - Tuesday, June 14, 2005

Workflow information for Total Company:

Current state: Incomplete.
Some items that make up this e>List item are not started. [More...](#)

Time of last state change: 2:43:12 PM - Tuesday, June 14, 2005

User who last changed state: Administrator

REPRESENTATIVE WORKFLOW

The *Risk Analysis Blueprint* is designed to be used by individuals in Finance or Risk Management organizations who are responsible for assessing business risk.

The following sections describe how a risk manager might conduct a risk analysis.

FINANCIAL RISK

The first tab, *Financial Risk*, details different types of financial risk that may impact a corporation's performance, including:

- Interest rate
- Currency
- Credit rating
- Country exposure
- Country risk

The risk calculation starts with the revenue or expense stream impacted. The margin impact is then entered along with its description, its severity (the amount of the revenue or cost stream impacted) and its probability (the likelihood that the risk will occur).

The start of the impact is entered by quarter and is extrapolated out five years. Thus, if the impact started in Q1 of Year One, the impact would occur for five years. Similarly, Q1 of Year Two would mean the impact would occur for four years.

The appropriate mitigation cost estimate and description is entered at the bottom of the tab.

This same methodology is applied to the other Financial Risk elements (Country Risk, etc.) across the tab; and the *Total Financial Risk* is summarized along the right side column.

Financial Risk	Company Liability Risk	Management Risk	Brand Risk	Competitor Risk	Customer Risk	Industry Risk	Project Risk	St
Division 1								
Scenario 1								
	Interest Rate	Currency	Credit Rating	Country Risk	Other	Total Financial Risk		
(Revenue) Impact \$ (millions)		\$(200)				\$(200)		
Cost Impact \$ (millions)	\$100					\$100		
Gross Margin %	100.00%	60.00%				160.00%		
Margin Impact \$ (millions)	\$(100)	\$(120)				\$(220)		
Impact Description	Interest rate increase	Strong dollar						
Severity	80.00%	70.00%				150.00%		
Probability	20.00%	30.00%				50.00%		
Timing Year 1	Q3							
Timing Year 2		Q2						
Timing Year 3								
Timing Year 4								
Timing Year 5								
(Revenue) Impact Year 1 (millions)								
(Revenue) Impact Year 2 (millions)		\$(31.50)				\$(31.50)		
(Revenue) Impact Year 3 (millions)		\$(42.00)				\$(42.00)		
(Revenue) Impact Year 4 (millions)		\$(42.00)				\$(42.00)		
(Revenue) Impact Year 5 (millions)		\$(42.00)				\$(42.00)		
Total (Revenue) Impact (millions)		\$(157.50)				\$(157.50)		
Cost Impact Year 1 (millions)	\$8.00					\$8.00		
Cost Impact Year 2 (millions)	\$16.00					\$16.00		
Cost Impact Year 3 (millions)	\$16.00					\$16.00		
Cost Impact Year 4 (millions)	\$16.00					\$16.00		
Cost Impact Year 5 (millions)	\$16.00					\$16.00		
Cost Impact (millions)	\$72.00					\$72.00		
(Margin) Impact Year 1 (millions)	\$(8.00)					\$(8.00)		
(Margin) Impact Year 2 (millions)	\$(16.00)	\$(18.90)				\$(34.90)		
(Margin) Impact Year 3 (millions)	\$(16.00)	\$(25.20)				\$(41.20)		
(Margin) Impact Year 4 (millions)	\$(16.00)	\$(25.20)				\$(41.20)		
(Margin) Impact Year 5 (millions)	\$(16.00)	\$(25.20)				\$(41.20)		
Total (Margin) Impact (millions)	\$(72.00)	\$(94.50)				\$(166.50)		
Mitigation Description	Interest rate futures	Currency hedging						
Mitigation Cost Year 1 (millions)	\$10.00	\$30.00				\$40.00		
Mitigation Cost Year 2 (millions)								
Mitigation Cost Year 3 (millions)								
Mitigation Cost Year 4 (millions)								
Mitigation Cost Year 5 (millions)								
Total Mitigation Cost (millions)	\$10.00	\$30.00				\$40.00		

At the corporate level, the role-up of each division's risk assessment can be seen.

Financial Risk		Company Liability Risk	Management Risk	Brand Risk	Competitor Risk	Customer Risk	Industry Risk	Project Risk	Stagnation Risk
Division 1		1		Scenario 1					
Total Company		Interest Rate	Currency	Credit Rating	Country Risk	Other	Total Financial Risk		
Division 1		\$100	\$(200)				\$(100)		
Division 2		100.00%	60.00%				160.00%		
Division 3		\$100	\$(120)				\$(20)		
Division 4		Interest rate increase	Dollar strong						
Division 5		80.00%	70.00%				150.00%		
Probability		20.00%	30.00%				50.00%		
Timing Year 1		Q3							
Timing Year 2			Q2						
Timing Year 3									
Timing Year 4									
Timing Year 5									
(Revenue)/Cost Impact Year 1 (millions)		\$8.00					\$8.00		
(Revenue)/Cost Impact Year 2 (millions)		\$16.00	\$(31.50)				\$(15.50)		
(Revenue)/Cost Impact Year 3 (millions)		\$16.00	\$(42.00)				\$(26.00)		
(Revenue)/Cost Impact Year 4 (millions)		\$16.00	\$(42.00)				\$(26.00)		
(Revenue)/Cost Impact Year 5 (millions)		\$16.00	\$(42.00)				\$(26.00)		
Total (Revenue)/Cost Impact (millions)		\$72.00	\$(157.50)				\$(85.50)		
Margin Impact Year 1 (millions)		\$8.00					\$8.00		
Margin Impact Year 2 (millions)		\$16.00	\$(18.90)				\$(2.90)		
Margin Impact Year 3 (millions)		\$16.00	\$(25.20)				\$(9.20)		
Margin Impact Year 4 (millions)		\$16.00	\$(25.20)				\$(9.20)		
Margin Impact Year 5 (millions)		\$16.00	\$(25.20)				\$(9.20)		
Total Margin Impact (millions)		\$72.00	\$(94.50)				\$(22.50)		
Mitigation Description		Interest rate futures	Currency hedging						
Mitigation Cost Year 1 (millions)		\$10.00	\$30.00				\$40.00		
Mitigation Cost Year 2 (millions)									
Mitigation Cost Year 3 (millions)									
Mitigation Cost Year 4 (millions)									
Mitigation Cost Year 5 (millions)									
Total Mitigation Cost (millions)		\$10.00	\$30.00				\$40.00		

Each risk category can include as many as 20 different impacts.

Financial Risk		Company Liability Risk	Management Risk	Brand Risk	Competitor Risk	Customer Risk	Industry Risk	Project Risk	Stagnation Risk
Division 1		1		Scenario 1					
1		Currency	Credit Rating	Country Risk	Other	Total Financial Risk			
2		\$(200)				\$(100)			
3		60.00%				160.00%			
4		Margin Impact \$ (millions)	\$(120)			\$(20)			
5		Impact Description	Dollar strong						
6		Severity	70.00%			150.00%			
Probability		20.00%	30.00%			50.00%			
Timing Year 1		Q3							
Timing Year 2			Q2						
Timing Year 3									
Timing Year 4									
Timing Year 5									
(Revenue)/Cost Impact Year 1 (millions)		\$8.00				\$8.00			
(Revenue)/Cost Impact Year 2 (millions)		\$16.00	\$(31.50)			\$(15.50)			
(Revenue)/Cost Impact Year 3 (millions)		\$16.00	\$(42.00)			\$(26.00)			
(Revenue)/Cost Impact Year 4 (millions)		\$16.00	\$(42.00)			\$(26.00)			
(Revenue)/Cost Impact Year 5 (millions)		\$16.00	\$(42.00)			\$(26.00)			
Total (Revenue)/Cost Impact (millions)		\$72.00	\$(157.50)			\$(85.50)			
Margin Impact Year 1 (millions)		\$8.00				\$8.00			
Margin Impact Year 2 (millions)		\$16.00	\$(18.90)			\$(2.90)			
Margin Impact Year 3 (millions)		\$16.00	\$(25.20)			\$(9.20)			
Margin Impact Year 4 (millions)		\$16.00	\$(25.20)			\$(9.20)			
Margin Impact Year 5 (millions)		\$16.00	\$(25.20)			\$(9.20)			
Total Margin Impact (millions)		\$72.00	\$(94.50)			\$(22.50)			
Mitigation Description		Interest rate futures	Currency hedging						
Mitigation Cost Year 1 (millions)		\$10.00	\$30.00			\$40.00			
Mitigation Cost Year 2 (millions)									
Mitigation Cost Year 3 (millions)									
Mitigation Cost Year 4 (millions)									
Mitigation Cost Year 5 (millions)									
Total Mitigation Cost (millions)		\$10.00	\$30.00			\$40.00			

Each impact can have three scenarios.

Financial Risk	Company Liability Risk	Management Risk	Brand Risk	Competitor Risk	Customer Risk	Industry Risk	Project Risk	Stagnation Risk
Division 1 Scenario 1								
	Interest Rate	Currency	Scenario 1	Other	Total Financial Risk			
(Revenue)/Cost Impact \$ (millions)	\$100		Scenario 2		\$ (100)			
Gross Margin %	100.00%		Scenario 3		160.00%			
Margin Impact \$ (millions)	\$100				\$(20)			
Impact Description	Interest rate increase	Dollar strong						
Severity	80.00%	70.00%			150.00%			
Probability	20.00%	30.00%			50.00%			
Timing Year 1	Q3							
Timing Year 2		Q2						
Timing Year 3								
Timing Year 4								
Timing Year 5								
(Revenue)/Cost Impact Year 1 (millions)	\$8.00				\$8.00			
(Revenue)/Cost Impact Year 2 (millions)	\$16.00	\$(31.50)			\$(15.50)			
(Revenue)/Cost Impact Year 3 (millions)	\$16.00	\$(42.00)			\$(26.00)			
(Revenue)/Cost Impact Year 4 (millions)	\$16.00	\$(42.00)			\$(26.00)			
(Revenue)/Cost Impact Year 5 (millions)	\$16.00	\$(42.00)			\$(26.00)			
Total (Revenue)/Cost Impact (millions)	\$72.00	\$(157.50)			\$(85.50)			
Margin Impact Year 1 (millions)	\$8.00				\$8.00			
Margin Impact Year 2 (millions)	\$16.00	\$(18.90)			\$(2.90)			
Margin Impact Year 3 (millions)	\$16.00	\$(25.20)			\$(9.20)			
Margin Impact Year 4 (millions)	\$16.00	\$(25.20)			\$(9.20)			
Margin Impact Year 5 (millions)	\$16.00	\$(25.20)			\$(9.20)			
Total Margin Impact (millions)	\$72.00	\$(94.50)			\$(22.50)			
Mitigation Description	Interest rate futures	Currency hedging						
Mitigation Cost Year 1 (millions)	\$10.00	\$30.00			\$40.00			
Mitigation Cost Year 2 (millions)								
Mitigation Cost Year 3 (millions)								
Mitigation Cost Year 4 (millions)								
Mitigation Cost Year 5 (millions)								
Total Mitigation Cost (millions)	\$10.00	\$30.00			\$40.00			

The description of risk impact can be further elaborated upon using cell annotations.

Financial Risk	Company Liability Risk	Management Risk	Brand Risk	Competitor Risk	Customer Risk	Industry Risk	Project Risk	Stagnation Risk
Division 1 Scenario 1								
	Interest Rate	Currency	Credit Rating	Country Risk	Other	Total Financial Risk		
(Revenue)/Cost Impact \$ (millions)	\$100	\$(200)			\$ (100)			
Gross Margin %	100.00%	60.00%			160.00%			
Margin Impact \$ (millions)	\$100	\$(120)			\$(20)			
Impact Description	Interest rate increase							
Severity	80.00%				150.00%			
Probability	20.00%				50.00%			
Timing Year 1	Q3							
Timing Year 2								
Timing Year 3								
Timing Year 4								
Timing Year 5								
(Revenue)/Cost Impact Year 1 (millions)	\$8.00				\$8.00			
(Revenue)/Cost Impact Year 2 (millions)	\$16.00	\$(31.50)			\$(15.50)			
(Revenue)/Cost Impact Year 3 (millions)	\$16.00	\$(42.00)			\$(26.00)			
(Revenue)/Cost Impact Year 4 (millions)	\$16.00	\$(42.00)			\$(26.00)			
(Revenue)/Cost Impact Year 5 (millions)	\$16.00	\$(42.00)			\$(26.00)			
Total (Revenue)/Cost Impact (millions)	\$72.00	\$(157.50)			\$(85.50)			
Margin Impact Year 1 (millions)	\$8.00				\$8.00			
Margin Impact Year 2 (millions)	\$16.00	\$(18.90)			\$(2.90)			
Margin Impact Year 3 (millions)	\$16.00	\$(25.20)			\$(9.20)			
Margin Impact Year 4 (millions)	\$16.00	\$(25.20)			\$(9.20)			
Margin Impact Year 5 (millions)	\$16.00	\$(25.20)			\$(9.20)			
Total Margin Impact (millions)	\$72.00	\$(94.50)			\$(22.50)			
Mitigation Description	Interest rate futures	Currency hedging						
Mitigation Cost Year 1 (millions)	\$10.00	\$30.00			\$40.00			
Mitigation Cost Year 2 (millions)								
Mitigation Cost Year 3 (millions)								
Mitigation Cost Year 4 (millions)								
Mitigation Cost Year 5 (millions)								
Total Mitigation Cost (millions)	\$10.00	\$30.00			\$40.00			

OTHER BUSINESS RISKS

The other tabs identify risk associated with:

- Company liability
- Management
- Brand
- Competitor
- Customer
- Industry
- Project
- Stagnation
- Technology

The analysis for these risks follows the same methodology described above.

IMPACT SUMMARY

The last tab consolidates and summarizes the impact of all the business risks.

Management Risk	Brand Risk	Competitor Risk	Customer Risk	Industry Risk	Project Risk	Stagnation Risk	Technology Risk	Impact/Mitigation Cost Summary
Division 1		Scenario 1						
	Financial Risk	Company Liability Risk	Management Risk	Industry Risk	Technology Risk	Brand Risk	Competitor Risk	Customer R
(Revenue) Impact \$ (millions)	\$(200)							
Cost Impact \$ (millions)	\$100							
(Revenue) Impact Year 1 (millions)								
(Revenue) Impact Year 2 (millions)	\$(31.50)							
(Revenue) Impact Year 3 (millions)	\$(42.00)							
(Revenue) Impact Year 4 (millions)	\$(42.00)							
(Revenue) Impact Year 5 (millions)	\$(42.00)							
Total (Revenue) Impact (millions)	\$(157.50)							
Cost Impact Year 1 (millions)	\$8.00							
Cost Impact Year 2 (millions)	\$16.00							
Cost Impact Year 3 (millions)	\$16.00							
Cost Impact Year 4 (millions)	\$16.00							
Cost Impact Year 5 (millions)	\$16.00							
Cost Impact (millions)	\$72.00							
(Margin) Impact Year 1 (millions)	\$(8.00)							
(Margin) Impact Year 2 (millions)	\$(34.90)							
(Margin) Impact Year 3 (millions)	\$(41.20)							
(Margin) Impact Year 4 (millions)	\$(41.20)							
(Margin) Impact Year 5 (millions)	\$(41.20)							
Total (Margin) Impact (millions)	\$(166.50)							
Mitigation Cost Year 1 (millions)	\$40.00							
Mitigation Cost Year 2 (millions)								
Mitigation Cost Year 3 (millions)								
Mitigation Cost Year 4 (millions)								
Mitigation Cost Year 5 (millions)								
Total Mitigation Cost (millions)	\$40.00							

About Cognos, an IBM company

Cognos, an IBM Company, is the world leader in business intelligence and performance management solutions. It provides world-class enterprise planning and BI software and services to help companies plan, understand and manage financial and operational performance. Cognos was acquired by IBM in February 2008. For more information, visit <http://www.cognos.com>.

For more information

Visit the Cognos Web site at www.cognos.com

Request a call

To request a call or ask a question, go to www.cognos.com/contactme. A Cognos representative will respond to your enquiry within two business days.

**ABOUT THE COGNOS INNOVATION CENTER
FOR PERFORMANCE MANAGEMENT**

The Cognos Innovation Center is dedicated to transforming routine performance management practices into “next practices” that help cut costs, minimize risk, streamline processes, boost productivity, enable rapid response to opportunity, and increase management visibility.