



IBM Industry Models for Insurance The Insurance Information Warehouse (IIW)

General Information Manual



Content

Executive Summary	3
Overview	7
Business Solution Templates	10
Business Model	31
Enterprise Model	36
Physical Environment	39
Sample Reports	41



Executive Summary

The Insurance Marketplace

Over the past decade, all insurance industry sectors have experienced profound transformations in their business environments. Deregulation, competition, technology advances and globalization combine to exert substantial pressure on insurers, brokers, asset managers and reinsurers and on their ability to respond to these changes. Key forces shaping the insurance industry include:

Shifting customer needs and expectations

- Erosion of traditional value propositions, including the emphasis on value delivered through personal relationships
- Willingness to assume more risk, and an increasing preference for self insurance and unbundled services
- Desire for self-direction, supported by rich sets of product and price information
- Requirements for new standards of convenience and service
- Demand for improved capabilities including mass-customized products and services
- Increasing willingness to deal with multiple insurers and change insurers more frequently
- Solvency II obligations

Changing competitive dynamics

- Increasing focus on both revenue generation and cost reduction among existing insurers and emerging competitors
- Potential for dramatically lower acquisition costs for new entrants
- Ability of institutions to capitalize on existing trust-based or transaction-based relationships
- Increasing product and service commoditization through competitive actions and informational transparency
- Emerging lower cost distribution options, potentially favoring new competitors

Emerging technology levers

- Rapid emergence of valuable but potentially disruptive new technologies
- Development of technologies enabling better collaboration and information sharing across insurers
- Technology-driven delivery efficiencies and economies
- Sustainable competitive advantages of insurers skilled at identifying and deploying key technologies

Changing economic and business environment

- Continuing global deregulation fueling competition, threatening revenue streams and eroding market shares
- Growing customer turnover in increasingly saturated markets, requiring higher customer acquisition rates merely to maintain market share
- Significant decline in long-term investment returns, severely impacting revenues
- Unsustainably high combined and loss ratios
- Growing medical inflation, increasing numbers of class action suits, asbestos claims and risk-covered catastrophes all impacting costs

In response to these forces, many insurance companies are determined to obtain and maintain market leadership by:

- Increasing emphasis on growth in core businesses
- Shifting focus from market share and acquisition to customer penetration, profitability and retention
- Lowering costs relating to claims and claims management through streamlined processes and improved fraud detection
- Developing, bundling and selling more innovative products more rapidly
- Improving customer relationships to build brand loyalty
- Using technology to improve product offerings and levels of service
- Restructuring the organization so it is more responsive to support market needs and customer requirements

In order to address these issues successfully the insurer must:

Acquire more high-value customers or customers with value potential

Increase profitable product/service uptake

Reduce costs associated with claims management, policy administration and distribution channel management

Broaden penetration: cross-sell and up-sell its own and its partner's products and services

Ration and target promotions to customers with value-improvement potential

Reduce customer turnover, retaining valuable customers longer

Increasingly, insurers turn to the features and capacity of Data Warehouses to support them in making the best business decisions to face these challenges. Simply put, a Data Warehouse is a corporate-level store of high-quality and integrated data from a company's own operational systems (often supplemented with purchased data) that is structured for analytical use. The warehouses provide data for even more refined data in downstream data marts that are data subsets usually departmental, line of business or business function in nature. Without a Data Warehouse and without the right analytical tools, making the right decisions in today's business environment is more than challenging - it may be impossible. Yet, making better decisions faster can be the difference between surviving and thriving in an increasingly competitive insurance marketplace.

Well-implemented data warehousing solutions provide information quickly and in a format that greatly improves the decision making process. The Data Warehouse allows insurance companies to exploit the potential of detailed information previously locked in legacy systems or summarized in distributed and often fragmented data marts and hence inaccessible to the business user. The effective use of such consolidated information by an organization is commonly called Business Intelligence (BI).

Typical Uses of Business Intelligence and Data Warehousing

BI is no longer a luxury, but has become fundamental to the success and growth of business worldwide. Some of the initiatives undertaken through the use of BI by insurers include:

- Customer prospecting and acquisition
- Improving agent productivity and associated costs
- Underwriting performance analysis
- Campaign performance management
- Revenue, cost and profitability analysis

Critical Success Factors in Business Improvement Facilitated by Business Intelligence

Customer Intelligence

Critical Success Factors	Key Business Questions	Pain/Inhibitors
<ul style="list-style-type: none"> • Identify, acquire, grow and retain the most profitable customers. • Develop a 360-degree view across products, channels and life cycles: <ul style="list-style-type: none"> - Customer usage behavior and spending patterns - Realized and unrealized margin contribution - Drivers of product bundle and channel profitability 	<ul style="list-style-type: none"> • Who are your most valuable customers? • What are their geo-demographic and usage profiles? • What is their product mix? • What is their turnover rate? • What is their growth potential? • How much can you expect to earn from them? • How do you identify similar prospects? 	<ul style="list-style-type: none"> • Most insurers lack a common customer key across lines of business.

Customer Relationship Management

Critical Success Factors	Key Business Questions	Pain/Inhibitors
<ul style="list-style-type: none"> • Use Customer Value measures to: <ul style="list-style-type: none"> - Ration and target marketing and servicing resources - Increase the velocity of relationship marketing activities - Service and communicate through the most efficient and effective channels - Understand customer behavior, including changing risk and investment requirements - Improve credit risk management 	<ul style="list-style-type: none"> • What percentage of your marketing budget focuses on acquisition? • What is your retention marketing ROI? • Which events have you identified as effective cross-sell triggers? • Which channels have the best response rates for switch promotions? 	<ul style="list-style-type: none"> • Most insurers lack the ability to measure marketing performance across campaigns and channels against stable baselines. • Effective CRM requires near-real-time access to Customer Intelligence. Distributed data marts typically have poor end-to-end data latency, such as difficult real-time access.

Business Advantages of Data Warehousing

Competitive Advantage	For example, gained from focused marketing campaigns, product structuring and bundling, promotional pricing and cross-selling
Customer Intelligence	For example, gained from understanding a customer's value across all products and services, evaluating responses to total customer needs, performing predictive analysis to define pre-emptive approaches that focus on building and retaining a valuable customer base
Risk Mitigation	For example, gained from understanding past experience and be able to predict future outcomes, minimization of credit risk and better fraud detection
Profit Improvement	For example, gained from income planning, revenue optimization, accurate pricing and costing rules, understanding actual charges and discounts, analyzing historical activity and price performance monitoring
Organizational Efficiencies	For example, gained from the creation of profitable alliances, maintenance of optimal organization structure, quantifying measures and scores and rewarding on desired results

Business advantage is gained from using information in the Data Warehouse to develop a coherent business strategy, enabling insurers to respond to the pressures of increased competition, to the need to increase the speed of marketing activities, and to expanding market globalization and product innovations. The Data Warehouse can be used here as a single source of consolidated data about:

Historical business trends	Product gaps and opportunities
Activity and performance targets	Cross-selling opportunities
Customer market segmentation	Sales and distribution channel performance
Premiums, commissions and investments	

Organization of information in this manner enables business advantage by identifying opportunities for:

Focused marketing campaigns	Product customization
Product bundling	Behavioral scores and rewards
Performance tracking	Cross-selling
Exposure management	Sales channel incentives
Promotional pricing	Competitor alliances
Wallet share and market share estimation	Forecasting and planning

Cost versus Value Justification

There are two points to consider when justifying the cost of constructing the Data Warehouse. The first point is that while operational cost reductions can be realized by analytical use of the information in the Data Warehouse, incremental operational value can also be driven by it. For example, using the Data Warehouse to omit non-responding or non-profitable customers has been estimated to save 10% of direct marketing operational costs.

The second point is the most important. The Data Warehouse is about facilitating the acquisition of future revenue. The business drivers for this include the identification of new sources of revenue through more flexible market response capabilities and shorter product time to market. The resulting new insurance and investment products can generate faster growing or completely new revenue streams. The Data Warehouse supplies information about customer behavior with regard to their profitability, wallet share and spending patterns. From this, opportunities can be identified for improving customer relationships, leading to increased customer satisfaction, product uptake and usage (penetration) and retention.

The effect is significant. A recent IDC report, "Financial Impact of Business Analytics", found that Data Warehouse and business analytics implementation can generate a median five-year return on investment (ROI) of 112% with a mean payback of 1.6 years on average costs of \$4.5 million. Of the organizations included in this study, 54% have an ROI of 101% or more.

This study also shows that although a business analytics implementation is a substantial investment for an organization, it can deliver considerable benefits. For the study participants, value accrued through quantitative and qualitative benefits that ranged from increased business performance to reduced operations costs and improved customer relations. These organizations consider their particular business analytics implementation either a necessary cost of business or a critical factor in their plan for success and survival in a highly competitive market.

IBM helps organizations to accelerate achievement of similar results by providing a low risk Data Warehouse solution, which forms the foundation for the entire Data Warehouse development.



Overview

What is a Data Warehouse?

A Data Warehouse is a central repository of detailed and summarized data from disparate internal operational systems often supplemented with data from external sources. Operational and external source data is extracted, integrated, summarized and stored into a Data Warehouse, and can then be accessed by users in a consistent and subject-oriented format. Data organized around a business entity such as customer, product or service area is more useful for analysis than operational applications which tend to be designed to support a vertical function of the business such as policy administration, accounts receivables or general ledger.

A Data Warehouse has a very different structure compared to an online transaction processing (OLTP) system. Data in a warehouse compares to operational data as follows:

Data Warehouse	Operational Data
<ul style="list-style-type: none">• Archived and summarized• Organized by subject• Static until refreshed• Simplified for analysis• Accessed and manipulated• Unstructured for analysis	<ul style="list-style-type: none">• Current or near current• Organized by application• Dynamic• Complex for computation• Updated• Structured for repetitive processing

A Data Warehouse provides an online analytical processing (OLAP) data structure, as opposed to the operationally tuned OLTP data structure. A user wanting to perform OLAP can access many records per transaction, while OLTP users can only access one record at a time. Analytical users rarely update data and require response times ranging from minutes to hours, while OLTP users constantly update individual records and expect sub-second response times.

An OLAP environment supports analytical queries against the data that represent an organization's state at a specific point in time. An OLAP data structure describes the organization of the data prepared for use with analytical (multidimensional) tools and allows for accessing, storing and manipulating the forms of information required by Decision Support System (DSS), Enterprise Information System (EIS) and Management Information System (MIS) applications. For example:

- Complex, ad-hoc queries are submitted and executed rapidly because the data is stored in a consistent format
- Queries do not interfere with ongoing operations because the system is dedicated to serving as a Data Warehouse
- Data consolidated from multiple sources can be organized by useful categories such as customers or products

Building a Data Warehouse

As Data Warehouses are typically run as stand-alone projects, building a Data Warehouse gives an organization a unique development opportunity. The results of implementing a Data Warehouse are immediate and quantifiable and the implementation need not interfere with business operations. Because the operational data of internal systems and external feeds potentially comes from many different sources, the first step must be to produce a logical model of an insurance company's organizational (enterprise level) data requirements, fully independent of any particular application.

To achieve the organization-wide benefits of this modern information management, a comprehensive specification of the organization's existing data must also be defined. Because designing and implementing this solution is a complex process, often much more complex than expected or planned for, many organizations may not have all the appropriate skills and resources available in-house to complete the project.

The most cost-effective solution with the shortest deployment time frame is to purchase a Data Warehouse architecture and resources available in-house to complete the project.

What is the IBM Insurance Information Warehouse?

The IBM Insurance Information Warehouse (IIW) is a fully realized development blueprint enabling insurance companies to build Data Warehouse solutions to suit their specific needs. IIW includes the key components required for the core of a data warehousing solution. IIW offers:

- A flexible and scalable Data Warehouse infrastructure, enabling organizations to build a comprehensive Data Warehouse solution through phased development. This allows for rapid delivery of high business value deliverables by initially focusing on the business areas offering the greatest returns and feasibility, while building within a proven technical warehousing architecture.
- Content to cover analysis in critical insurance business areas such as Profitability, CRM, Financial Reporting and Risk Management. Selected analysis areas are described in further detail at the end of this chapter
- Flexibility to make possible the creation of a range of Data Warehouse solutions, from departmental data marts to enterprise-wide Data Warehouses.
- A proven flexible and scalable Data Warehouse technical infrastructure required for successfully building a comprehensive Data Warehouse solution, and providing the rapid delivery of business value without compromising on a sound and scalable structure.
- Infrastructure blueprint, consisting of business solution templates satisfied by thousands of common business definitions and logical data structures, IIW is used by insurance companies to integrate data from multiple operational platforms and to design this Data Warehouse infrastructure.

Business Solution Templates

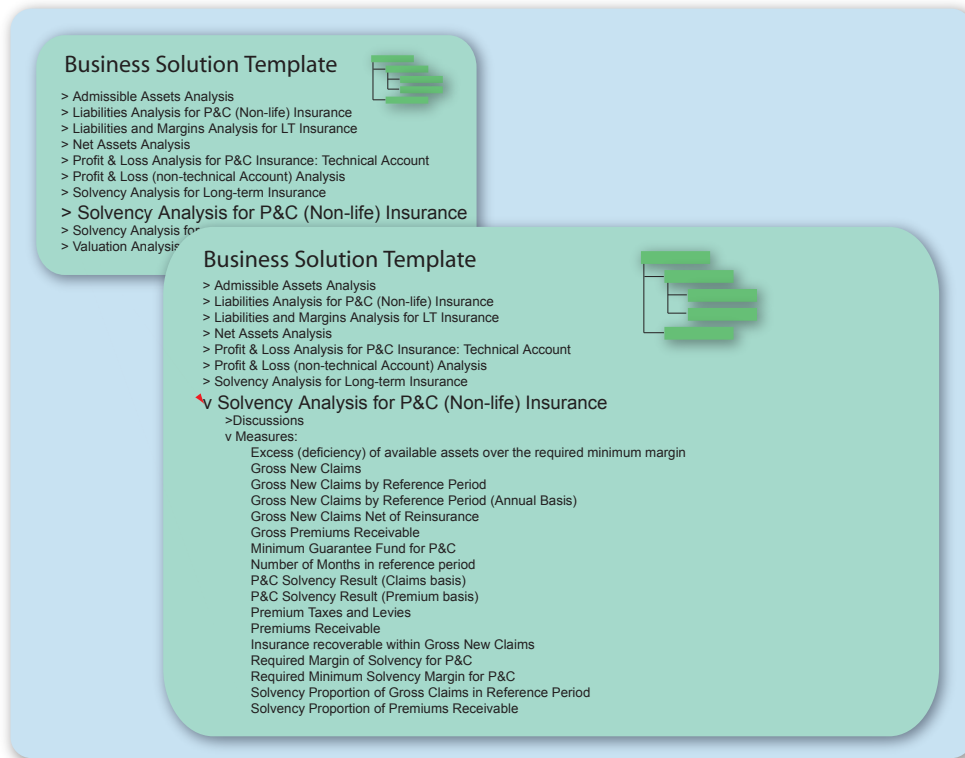
IIW offers a set of Business Solution Templates (BSTs) that describe how information can be effectively structured and presented to business users. Examples include:

- Analytical Customer Relationship Management (CRM)
- Profitability
 - Claims Efficiency
 - Intermediary Performance
 - Business Performance
- Risk and Compliance
 - Solvency I/II
 - Sarbanes Oxley Act (SOA)
 - International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS)
- Risk Management

BSTs offer:

- Coverage of major business intelligence issues faced by insurers.
- Mapping of each measure and dimension to the IIW Enterprise Data Warehouse (EDW) for rapid and accurate scoping of the Data Warehouse for a specific business issue while ensuring complete requirements-to-data traceability.
- Conformity of dimensions and measures across the enterprise.
- Pre-defined views allowing insurers to scope quickly a particular business requirement across multiple reporting and data repository structures. These views can be easily customized and expanded to address other business areas.

BSTs dramatically reduce the time and effort required in the analysis phase of the Data Warehouse implementation. The production of high-quality information at this early analysis stage provides the correct scoping and definition that reduces associated development risks and helps ensure a more successful implementation. The following diagram illustrates the structure and content of a sample Analytical Requirement for Financial Reporting, detailing a subset of the solvency analysis reporting requirements of P&C insurers.



Business Model

The IIW Business Model is a flexible, conceptual business model providing an implementation-independent view of the data of the insurance business. It presents a common communication link between the specific warehouse implementation and the core operational data. A customizable business-level data model, it enables agreement on common definitions for the Data Warehouse and of information likely to come from multiple systems. This is described in further detail in “The Enterprise Model” section.

Enterprise Model

The IIW Enterprise Model is an enterprise-wide entity-relationship model with pre-defined Data Warehouse structures for the insurance business. When used with any commercially available modeling CASE tool, IIW allows you to generate automatically the physical Data Warehouse database from the model. This is described in further detail in “The Physical Environment” section.

Summary of Benefits and Advantages of IIW

- Delivers the means to competitive advantage by providing consolidated, consistent and usable data structures
- Supports rapid implementation of warehousing solutions by identifying meaningful analytical data
- Provides a combination of sound infrastructure techniques, a proven method for using data management product sets and rich functional content
- Eases the subsequent customization and extension of the Data Warehouse
- Enables business users to control more effectively the definition and scoping of the Data Warehouse solution
- Offers a lower total cost of ownership (TCO) by being easy to change, leading to a high degree of re-usability and the ability to leverage existing company assets
- Helps substantially reduce normal Data Warehouse development cost
- Reduces project risks by providing a proven implementation roadmap.
- Offers straightforward integration with best-of-breed applications needed in data warehousing phases such as ETL, Insurance Analytics, Data Mining, OLAP and CRM tools
- Enables the development of high-performance, scalable and very large Data Warehouses (VLDW)

Business Solution Templates

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Analytical Customer Relationship Management (CRM)

Advance Analysis - Analyzes advances on investment contracts, as a function of policyholder profile, contact method and type of contract. Dimensions: - Time - Event - Communication - Product - Party profile - Policy - Charge - Investment vehicle - Advance - Fiscal regime - Financial objective

Campaign Answer Analysis - Analyzes answers to questionnaires sent out by a campaign. Dimensions: - Time - Segment - Questionnaire - Campaign step - Communication medium - Geographic area - Party profile - Contact strategy

Campaign Contact Analysis - Analyzes outbound and inbound contacts executed in a campaign. Dimensions: - Time - Segment - Questionnaire - Campaign step - Communication medium - Geographic area - Party profile - Contact strategy

Campaign Installment Analysis - Analyzes installments in all contracts and of additional installments resulting from marketing campaigns, as a function of policyholder profile and financial product. Dimensions: - Time - Product - Policyholder - Policy - Premium - Charge - Financial objective - Payment method - Payment origin

Campaign Sales Analysis - Analyzes sales generated by a campaign, in terms of number of sold policies, generated revenue, total sum insured and total commission paid out to agents. Dimensions: - Time - Product - Segment - Campaign step - Communication medium - Distribution channel - Geographic area - Party profile - Contact strategy

Cross-sell Strategy Analysis - Analyzes written premium for active policy components. This analysis identifies the best cross-sell marketing strategy according to estimated potential revenues. Dimensions: - Time - Geographic area - Party profile - Cross-sell strategy

Customer Risk Analysis - Analyzes measurements related to risk factors. Dimensions: - Time - Policy - Product

Customer Service KPI for Growth Analysis - Analyzes the key performance indicators of the modeled organization's customer service activities, to grow revenue. Dimensions: - Time - Line of business - Product - Distribution channel - Intermediary - Service provider - Party profile - Competitor

Customer service kpi for optimisation analysis - Analyzes the key performance indicators of the modeled organization's customer service activities, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Distribution channel - Intermediary - Service provider - Service request - Party profile - Task: business activity, sub-process, process - Task performer: organizational unit, employee

Household Value Analysis - Measures the number of policies held by a household, number of people in the household, number of adults, number of children, number of cars. Dimensions: - Time - Customer value - Intermediary - Organization

Policy Event Analysis - Analyzes events affecting the policy, as a function of policyholder profile, contact method and type of contract. Dimensions: - Time - Event - Communication - Product - Coverage - Policy - Role player

Surrender Analysis - Analyzes surrender events on investment contracts, as a function of policyholder profile and underlying investment vehicle. Dimensions: - Time - Event - Product - Party profile - Policy - Charge - Investment vehicle - Fiscal regime - Financial objective

Campaign Analysis by Customer - Measures campaign success from the customer perspective: for example, new customers gained, existing customers cross-sold to, customers contacted but not bought again and the premiums earned from each category. Dimensions: - Time - Communication medium - Distribution channel - Geographic area - Intermediary - Party profile - Product – Segment

Campaign Communication Analysis - Measures communications generated by a marketing campaign. Dimensions: - Time (grain: day) - Campaign (grain: campaign) - Customer (grain: customer profile) - Communication (grain: communication purpose) - Intermediary. For example, the measure Number of communications corresponds to the number of communications received per day, per campaign, per market segment, per communication purpose (for example, complaint), per communication channel role; used to analyze the number of complaints generated by a marketing campaign.

Campaign Cost Analysis - Measures the variable cost of the outbound and inbound contacts executed in a campaign. Dimensions: - Time - Segment - Campaign step - Communication medium - Geographic area - Party profile - Contact strategy

Campaign Profitability Analysis - Measures the revenues generated by a campaign as well as the costs associated with it. Dimensions: - Time (grain: month) - Campaign - Communication medium - Distribution channel (campaign initiator) - Geographic area ((territory target of campaign) - Contact strategy

CRM Event Analysis - Analyzes CRM events in the life cycle of customers/prospects, for example, marriage, new child and new customer. Dimensions: - Time - Geographic area - Party profile - CRM event

Cross-Selling Forecasting Analysis - Measures the probability of success for a targeted customer, as well as the written premium, acquisition cost and discounted profit associated to a cross-sold policy. That is, the measures related to the forecasted performance of targeted marketing campaigns, using the customer segments identified by the data mining algorithm and the propensity scores to cross-buy for each targeted customer. Dimensions: - Time - Product - Geographic area - Party profile - Forecast scenario - Cross-sell strategy

Customer Profitability Analysis - Analyzes profitability measurements at customer level, for example, individual, household. Dimensions: - Time - Intermediary - Policy – Product

Customer Retention Analysis - Analyzes measurements related to the loyalty of the customer. Dimensions: - Time - Policy – Product

Customer Satisfaction Analysis - Analyzes measurements related to the customer satisfaction. Dimensions: - Time - Policy – Product

Customer Service KPI for Improvement Analysis - Analyzes the key performance indicators of the modeled organization's customer service activities, to improve profit margin. Dimensions: - Time - Line of business - Product - Distribution channel - Intermediary - Service provider - Party profile - Task: business activity, sub-process, process

Household Policy Volume Analysis - Measures the number of policies held by a household, total written premium and monthly written premium. Dimensions: - Time - Policy - Premium – Household

Person Citation Analysis - Analyzes the person's citations. Dimensions: - Time (grain: month) – Person

Policyholder Behavior Analysis - Analyzes contracts held by the policyholder as well as movements made by the policyholder in each contract. Dimensions: - Time - Product - Geographic area - Party profile

Switching Analysis - Analyzes fund switching on investment contracts, as a function of policyholder profile, type of product and underlying investment vehicle. Dimensions: - Time - Event - Product - Party profile - Policy - Charge - Investment vehicle - Fiscal regime - Financial objective

Profitability - Claims Efficiency

Auto Claim Handling Analysis - Measures the number of auto claims, total claim amount, reinsurance and third-party recovery. Dimensions: - Time (grain: Day) - Vehicle (grain: Vehicle model) - Driver (grain: Person) - Policyholder (grain: Person) - Intermediary (grain: Intermediary) - Policy (grain: Policy) - Product component (grain: Product component) - Claim (grain: Claim)

Claim Handling Performance Analysis - Allows the monitoring and the identification of inefficiencies in the claims handling process. Resulting reports help to optimize supplier networks and to improve operational efficiency and customer satisfaction. Dimensions: - Time (grain: Daily snapshot on a monthly, quarterly or yearly reference period) - Product component (grain: Product component) - Policy (grain: Policy) - Claim (grain: Claim) - Loss event (grain: Loss event) - Policyholder (grain: Person) - Organization (grain: Branch) - Intermediary (grain: Intermediary) - Claim adjuster (grain: Person)

Claims Audit Analysis - Allows a detailed follow-up of new claims raised, compliance to business rules (for example, Reinsurance excess requirements), distribution of claims amongst intermediaries, loading of claim handlers, and so on. Dimensions: - Time (grain: Daily snapshot) - Product component (grain: Product component) - Intermediary (grain: Intermediary) - Policyholder (grain: Person) - Policy (grain: Policy) - Claim (grain: Claim) - Claim adjuster (grain: Person)

Claims Statistical Analysis - Provides a statistical analysis of claims per claim profile and product or class of business. Typically, the average claim amount and the claim frequency can influence decisions being made in product development. Dimensions: - Time (grain: Yearly snapshot) - Product component (grain: Product component) - Claim (grain: Claim)

Financial Analysis of Claims - Financial performance of the claims area as a whole, including paid/not paid, incurred, litigated, reopened and reported. Used in business areas such as financial planning, fraud detection, profitability and the overall effectiveness of the Claims department. Dimensions: - Time - Product - Geographic area

Late Claims Analysis - Analyzes claims that are submitted late. Typically, lately submitted claims can help identify specific intermediary behavioral patterns or can influence the calculation of renewal premiums. Dimensions: - Time (grain: Quarterly snapshot) - Product component (grain: Product component) - Intermediary (grain: Intermediary) - Policy (grain: Policy) - Claim (grain: Claim)

Loss Adjustment Expenses Analysis - Analyzes the costs associated with handling losses. Used to measure the performance of the underwriting activity and as a key part of the calculation of risk premium. Dimensions: - Time - Product

P&C Claims and Premiums by Risk Group - Accident Year Basis Analysis - Low-level reporting of claims and premiums on an accident year basis. Dimensions: - Time (accident year) - Class of business
Accident year must be understood as follows.
- Gross premiums earned in respect of an accident year must be such proportion of gross premiums written as is attributable to risks borne by the insurer during that accident year.
- Where an amount or number is required to be shown for claims in respect of an accident year, that amount or number must be determined on the basis of claims arising from incidents occurring during that accident year

P&C Claims, Expenses and Technical Provisions - Accident Year Basis Analysis - Aggregate-level analysis of the claims activity. Reported on an accident-year basis, i.e. showing claims activity in the current financial year arising from (1) incidents in the current financial year and (2) incidents from previous financial years but where claims were handled in the current financial year (the year being analyzed)

Year-to-Date Claims Comparison Analysis - Allows the comparison of number of claims, claim payments and estimates between different periods. Dimensions: - Time (grain: Monthly snapshot) - Product component (grain: Product component)

Auto Loss Event Analysis - Analyzes auto loss events with the main purpose to perform trend analysis in motor vehicle faults. Dimensions: - Time (grain: Day) - Car (grain: Car) - Policyholder (grain: Person) - Product component (grain: Product component) - Policy (grain: Policy) For example, the Number of accidents represents the number of accidents that happened to a person driving a vehicle at a certain day

Claim Incoming Recovery Payments Analysis - Allows the monitoring of incoming recovery payments from third parties, reinsurers, and so on, in order to track the recovery of debts. Dimensions: - Time (grain: Monthly) - Policyholder (grain: Person) - Claim (grain: Claim) - Claim recovery (grain: Claim recovery)

Claims for IT insurance Analysis - Analyzes Claims Details for the financial year, compared with the previous year. One form for the whole business and one for each fund category. Dimensions: - Time: total financial year and previous year - Fund - Product

Claims Value Variation Analysis - Allows a comparison of claims estimates period after period, in order to identify open claims for which there is an important variation in the claim's estimate. Dimensions: - Time (grain: monthly snapshot) - Product component - Policyholder (grain: Person) - Policy (grain: Policy) - Claim (grain: Claim)

Health Claims Analysis - Analyzes numbers and amounts of claims, but also the linkage of these figures to the trends of health expenditures by type of treatment, health care provider and profile of the insured (age and gender). Dimensions: - Time - Health care provider - Insured - Medically necessary treatment

Life, Savings and Investments Claim Analysis - Analyzes claims associated with protection insurance, as a function of the insured and policyholder profile. Dimensions: - Time - Event - Product - Policyholder - Coverage - Policy - Benefit - Financial objective

Loss Event Analysis - Measures the distribution of claims across all types of loss events. It allows detailed analysis of claims and loss events from different angles. For example, these measures allow the reporting of claims relevant to major disaster or weather events to official insurance bodies and reinsurers

P&C Claims and Premiums by Risk Group - Underwriting Year Basis Analysis - Low-level reporting of claims and premiums on an underwriting year basis. Dimensions: - Time (underwriting year) - Class of business Underwriting year must be understood as follows. - Gross premiums written in an underwriting year must be the amount of such premiums arising in respect of contracts of insurance incepting during that underwriting year, whether or not they are received during that underwriting year. - Where an amount is required to be shown for claims in respect of an underwriting year, that amount must be determined on the basis of claims arising under contracts of insurance incepting during that underwriting year

P&C Net Claims and Premiums - Accident Year Basis Analysis - Premiums and Claims detailed on a year-by-year basis of the occurrence of the accident upon which each claim is based. Dimensions: - Time (accident year) - Class of Business Accident year must be understood as follows. - Gross premiums earned in respect of an accident year must be such proportion of gross premiums written as is attributable to risks borne by the insurer during that accident year. - Where an amount or number is required to be shown for claims in respect of an accident year, that amount or number must be determined on the basis of claims arising from incidents occurring during that accident year

Profitability - Intermediary Performance

Agency Continuous Professional Development Analysis - Monitors continuous professional development (CPD) of agents through training. This also allows the identification of training gaps. Dimensions: - Time (grain: week) - Agent - Training (grains: CPD category/status, source of training)

Agent Achievements Against Internal Performance Benchmark Analysis - Analyzes an agent's performance in terms of production, business quality, timeliness in processing applications and level of service. The results per agent are compared against internal agent performance benchmarks defined by the insurance company. These are the typical requirements for an agent to be awarded entry to the higher levels of internal recognition within the sales force. Dimensions: - Time (grain: month) - Agent - Product (grain: product) - Geographic Area (grain: work place)

Agent Training Analysis - Tracks the professional development of agents via their performance in examinations, number of training hours and types of courses taken. It also analyzes the profitability of the courses conducted, and assesses the training needs and preferences of agents through their response to courses. Dimensions: - Time (grain: month) - Agent - Training

Intermediary Compensation Analysis - Analyzes intermediaries' compensation in terms of the source of income. Dimensions: - Time (grain: month) - Intermediary - Geographic area (grain: work place) - Product - Commission (grain: commission type) - Premium (grain: premium frequency)

Intermediary Production Analysis - Analyzes an intermediary's business volume in terms of commission, premium and case count. Dimensions: - Time (grain: month) - Intermediary - Product (grain: group) - Geographical area (grain: work place)

New Business Volume Analysis - Analyzes profitability of Life, Pensions and Investment business by performing trend sales analysis. Dimensions: - Time - Intermediary - Product - Geographic area - Premium

Agency Manpower Profile Analysis - Analyzes the insurer's agency force according to their personal profile and professional competency levels achieved. Dimensions: - Time (grain: month) - Agent

Agent Performance Based on Competency Analysis - Analyzes agents' performance and competencies based on a range of key performance indicators. This analysis is performed to identify training gaps. Dimensions: - Time (grain: month) - Agent - Product (grain: product) - Geographical Area (grain: work place)

Customer Feedback on Intermediaries Analysis - Analyzes information received from customers about the performance of intermediaries, whether positive or negative. Dimensions: - Time (grain: month) - Intermediary - Customer feedback

Intermediary Persistency Analysis - Analyzes the efficiency of intermediaries in terms of quality and conservation of business. Dimensions: - Time (grain: month) - Intermediary - Geographic area (grain: work place) - Product (grain: product)

Intermediary Sales Performance Analysis - Analyzes sales performance in terms of commission, premium and case count. Dimensions: - Time (grain: month) - Intermediary - Geographic area (grain: work place) - Product (grain: product) - Premium (grain: premium frequency) - Commission (grain: calculation basis)

Non-life Insurance Distribution Channel Value Creation Analysis - Analyzes business value generated by different types of distribution channels (for example, agents, brokers, direct) in Non-life insurance. The tree structure of its measures, combined with its Time dimension (reference year), allows an easier identification of the amounts that trigger the difference of business value from year to year. Dimensions: - Distribution channel - Time

Profitability - Business Performance

Asset Management KPI for Growth Analysis - Analyzes the key performance indicators of the modeled organization's asset management activities, to grow revenue. Dimensions: - Time - Line of business - Product - Category of assets - Party profile

Asset Management KPI for Optimization Analysis - Analyzes the key performance indicators of the modeled organization's asset management activities, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Category of assets - Task: business activity, sub-process, process - Task performer: organizational unit, employee

Average Premium Size Analysis - Analyzes average premium by policy and policyholder. Dimensions: - Time - Intermediary - Product - Geographic area - Organization - Premium

Billing and Collection KPI for Growth Analysis - Analyzes the key performance indicators for the modeled organization's billing and collection activities, to grow revenue. Dimensions: - Time - Line of business - Product - Distribution channel - Party profile

Billing and Collection KPI for Optimization Analysis - Analyzes the key performance indicators for the modeled organization's billing and collection activities, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Distribution channel - Intermediary - Party profile - Task: business activity, sub-process, process - Task performer: organizational unit, employee

Business Volume Analysis - Measures written premium, sum insured and investment value. This analysis can be used to look at the business volume across a company's portfolio. Dimensions: - Time - Campaign - Intermediary - Policy - Product - Geographic area - Party profile

Contract management KPI for Improvement Analysis - Analyzes the key performance indicators for the modeled organization's contract management activities, to improve profit margin. Dimensions: - Time - Line of business - Product - Task: business activity, sub-process, process

Cost Analysis - Analyzes total costs of the company per line of business. Dimensions: - Time (grain: monthly) - Line of Business

Economic Data Analysis - Analyzes management input and sales plans to achieve the insurance company's objectives

Health Products Profitability Analysis - The profitability of healthcare insurance products is based on the gross profit obtained

by comparing the premium and claim amounts. Dimensions: - Time - Product - Type of insurance Profitability is measure that identifies the difference between revenue earned (Income) and costs incurred (Expenses). Also known as Net Income. International Financial Reporting Standard IAS 1 92

Insurance Products Cash Flow Analysis - Analyzes inflows and outflows of cash for all contracts, as a function of the type of financial movement. Dimensions: - Time - Product - Party profile - Policy - Financial objective - Financial movement

Investment Performance Analysis - Analyzes the effectiveness and efficiency that the modeled organization achieves in performing the asset management processes and activities, in particular for managing investments. Dimensions: - Time - Line of business - Category of assets

Lt Benefit Payment KPI for Improvement Analysis - Analyzes the key performance indicators of the modeled organization's benefit payment activities for Long-Term (Life and pensions) Insurance, to improve profit margin. Dimensions: - Time - Line of business - Product - Product component - Distribution channel - Party profile - Category of assets - Claim (type of claim) - Task: business activity, sub-process, process

Management Initiatives Analysis - Analyzes management input and sales plans to achieve the insurance company's objectives

Marketing KPI for Growth Analysis - Analyzes the key performance indicators for the marketing processes, to grow revenue. Dimensions: - Time - Line of business - Product - Distribution channel - Campaign – Competitor

Marketing KPI for Optimization Analysis - Analyzes the key performance indicators for the marketing processes, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Distribution channel - Campaign - Task: business activity, sub-process, process - Task performer: organizational unit, employee

Non-life (P&C) Sales Performance Analysis - Analyzes policy sales, in terms of new business, renewals and endorsements

Overall Profitability Analysis for P&C (Ratio Basis) - The overall profitability analysis of the company from a ratio perspective. Dimensions: - Time – Product

P&C Claim KPI for Improvement Analysis - Analyzes the key performance indicators for the claims management activities for P&C insurance, to improve profit margin. Dimensions: - Time - Line of business - Product - Coverage - Claim (type of claim) - Task: business activity, sub-process, process

P&C Premiums - Accident Year Basis Analysis - Annual reporting of gross premiums, subdividing earned, unearned and reinsurers' shares. Dimensions: - Time (accident year and month) - Class of business This analysis covers all premiums received during the financial year, distinguishing risks incepted during the current or previous financial years. Accident year must be understood as follows. - Gross premiums earned in respect of an accident year must be such proportion of gross premiums written as is attributable to risks borne by the insurer during that accident year.

P&C Technical Provisions - Underwriting Year Basis Analysis - Analyzes claims and provisions, based upon the year in which the policy giving rise to the claim was underwritten. Dimensions: - Time (underwriting year and month) - Class of Business Underwriting year must be understood as follows. - Where an amount is required to be shown for claims in respect of an underwriting year, that amount must be determined on the basis of claims arising under contracts of insurance incepting during that underwriting year

Policy Persistency Analysis - Persistency trend analysis to improve the way the company runs the business on a daily basis. Dimensions: - Time - Intermediary - Product - Party profile - Organization - Policy

Product Development KPI for Growth Analysis - Analyzes the key performance indicators for the product development processes, to grow revenue. Dimensions: - Time - Line of business - Product - Competitor

Product Development KPI for Optimization Analysis - Analyzes the key performance indicators for the product development processes, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Task: business activity, sub-process, process - Task performer: organizational unit, employee

Sales and Distribution KPI for Growth Analysis - Analyzes the key performance indicators for the sales and distribution processes, to grow revenue. Dimensions: - Time - Line of business - Product - Distribution channel - Intermediary - Party profile - Competitor

Sales and Distribution KPI for Optimization Analysis - Analyzes the key performance indicators for the sales and distribution processes, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Distribution channel - Intermediary - Party profile - Task: business activity, sub-process, process - Task performer: organizational unit, employee

Asset Management KPI for Improvement Analysis - Analyzes the key performance indicators of the modeled organization's asset management activities, to improve profit margin. Dimensions: - Time - Line of business - Product - Category of assets - Task: business activity, sub-process, process

Auto Policy Volume Analysis - Analyzes auto policy volume in terms of earned premium, written premium and so on. Dimensions: - Policy (grain: coverage) - Geographic area of the Policyholder's home (grain: Postcode) - Vehicle (grain: vehicle profile) - Product component - Intermediary. For example, Earned premium measure represents the earned premium for a given reference date, per coverage, per geographic area of the Policyholder's home, per Insured vehicle profile, per product component and per intermediary

Billing and Collection Analysis - Analyzes billing and collection. Dimensions: - Time - Line of business - Product - Distribution channel - Party profile

Billing and Collection KPI for Improvement Analysis - Analyzes the key performance indicators for the modeled organization's billing and collection activities, to improve profit margin. Dimensions: - Time - Line of business - Product - Distribution channel - Party profile - Task: business activity, sub-process, process

Business Activity Performance Analysis - Analyzes the effectiveness and efficiency that the modeled organization achieves in performing its business activities. Dimensions: - Time - Task: business activity, sub-process, process - Task performer, organizational unit - Product, line of business

Contract Management KPI for Growth Analysis - Analyzes the key performance indicators for the modeled organization's contract management activities, to grow revenue. Dimensions: - Time - Line of business - Product - Party profile

Contract Management KPI for Optimization Analysis - Analyzes the key performance indicators for the modeled organization's contract management activities, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Distribution channel - Task: business activity, sub-process, process - Task performer: organizational unit, employee

Debt Flow Analysis - Analyzes debt related ratios. The use of debt can improve returns to stockholders in good years and increase their losses in bad years. Debt generally represents a fixed cost of financing. Dimensions: - Time (snapshot)

Health Business Volume Analysis - Focuses on new and in-force business in the specific domain of the health insurance portfolio. Dimensions: - Time - Insured - Product - Type of insurance - Intermediary - Policy

Health Sales Performance Analysis - The sales performance of the healthcare insurance line-of-business is analyzed by comparing the planned numbers and amounts of premiums and claims to their corresponding actual numbers and amounts. Dimensions: - Time - Product - Intermediary

Internal Linked Funds Unit Price Analysis for IT insurance - A statement, for each internal unit-linked fund, of the assets, charges and change in value between the present valuation and the last. Dimensions: - Time (snapshot at end of current and previous, valuation period) - Fund (one row in the analysis for each unit-linked fund)

LT Benefit Payment KPI for Growth Analysis - Analyzes the key performance indicators of the modeled organization's benefit payment activities for Long-Term (Life and pensions) Insurance, to grow revenue. Dimensions: - Time - Line of business - Product - Product component - Distribution channel - Party profile

LT Benefit Payment KPI for Optimization Analysis - Analyzes the key performance indicators of the modeled organization's benefit payment activities for Long-Term (Life and pensions) Insurance, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Product component - Distribution channel - Intermediary - Claim (type of claim) - Party profile - Task: business activity, sub-process, process - Task performer: organizational unit, employee

Marine Policy Volume Analysis - Analyzes maritime policy volumes in terms of earned premium, written premium and so on. Dimensions: - Time (Daily snapshot) - Coverage - Geographic area of the Policyholder's home (grain: country) - Ship - Product component - Intermediary

Marketing KPI for Improvement Analysis - Analyzes the key performance indicators for the marketing processes, to improve profit margin. Dimensions: - Time - Line of business - Product - Distribution channel - Campaign - Task: business activity, sub-process, process

New Business for IT insurance Analysis - Detailed breakdown of new business by a range of dimensions: - Time: current financial year - Source of business: for example, Direct, Reinsurance accepted external, Reinsurance accepted intra-group - Product (grain: product code) with aggregation on Class of business

Overall Performance Analysis - Trend analysis of key performance indicators of the insurance company. Dimensions: - Time - Line of business

P&C Claim KPI for Growth Analysis - Analyzes the key performance indicators for the claims management activities for P&C insurance, to grow revenue. Dimensions: - Time - Line of business - Product - Coverage - Claim (type of claim) - Party profile

P&C Claim KPI for Optimization Analysis - Analyzes the key performance indicators for the claims management activities for P&C insurance, to optimize capital efficiency and manage enterprise risk. Dimensions: - Time - Line of business - Product - Coverage - Claim (type of claim) - Distribution channel - Intermediary - Task: business activity, sub-process, process - Task performer: organizational unit, employee

P&C Premiums, Claims and Expenses - Underwriting Year Basis Analysis - (underwriting year and month) - Class of Business
Underwriting year: gross premiums written in an underwriting year must be the amount of such premiums arising in respect of contracts of insurance incepting during that underwriting year, whether or not they are received during that underwriting year. - Where an amount is required to be shown for claims in respect of an underwriting year, that amount must be determined on the basis of claims arising under contracts of insurance incepting during that underwriting year

Policy Delivery Analysis - Analyzes new policies that are delivered to customers by the intermediary. It analyzes the speed of delivery of policy documents and when they are not delivered at all. Dimensions: - Time (grain: month) - Intermediary - Geographic area (grain: work place) - Product (grain: product)

Premiums for IT insurance Analysis - Premium Income for the financial year, compared with the previous year. One form for the whole business and one for each fund category. Dimensions: - Time (total financial year and previous year) - Fund

Product Development KPI for Improvement Analysis - Analyzes the key performance indicators for the product development processes, to improve profit margin. Dimensions: - Time - Line of business - Product - Task: business activity, sub-process, process

Regulatory Information Analysis - Analyzes regulatory information and restrictions from a regulatory body. It can lead to increase/decrease of total premium income of the insurance company. Dimensions: - Time - Geographic area - Line of business

Sales and Distribution KPI for Improvement Analysis - Analyzes the key performance indicators for the sales and distribution processes, to improve profit margin. Dimensions: - Time - Line of business - Product - Distribution channel - Intermediary - Party profile - Task: business activity, sub-process, process

Sales Forecast Analysis - Analyzes and compares market and company forecasted measures, in terms of policy volumes, premium income, market share and growth rate. Dimensions: - Time - Geographic area - Line of business

Risk and Compliance - Solvency I

Capital Adequacy Analysis for With-Profits Business - Calculates a regulatory surplus for with-profits business, which is compared with the newly-introduced realistic surplus. This is known as the Twin Peaks approach to capital adequacy. The amount by which the regulatory surplus exceeds the realistic surplus is called the With-Profits Insurance Capital Component (WPICC). The WPICC is then used to calculate the Enhanced Capital Requirement (ECR) which is compared with the traditional Minimum Capital Requirement (MCR). The higher of the MCR and ECR is the Pillar 1 Capital Resources Requirement (CRR). Dimensions: - Time dimension shows snapshots at the end of the period in question and the previous period. - Fund: The WPICC is calculated for each with-profits fund, then summed to give a total WPICC for the insurer

Equalization Provisions Technical Account - Accident Year Basis Analysis - Technical account information for the equalization provision, using the accident year accounting approach. Dimensions: - Time (accident year) - Line of Business Accident year must be understood as follows. - Gross premiums earned in respect of an accident year must be such proportion of gross premiums written as is attributable to risks borne by the insurer during that accident year. - Where an amount or number is required to be shown for claims in respect of an accident year, that amount or number must be determined on the basis of claims arising from incidents occurring during that accident year

Expenses for IT insurance Analysis - Detailed breakdown of business expenses by a range of dimensions: - Time (current year and previous year) - Fund - Product

Index-linked Assets Analysis for IT insurance - A statement, for each index-linked fund, of the assets, liabilities and gross derivative value of the fund. Dimensions: - Time (snapshot at end of current valuation period only) - Fund Index-linked usually refer to the coupling of salaries, pensions, and so on. to the retail price index in order to make sure that the income from them keeps pace with inflation and assets are valued and analyzed accordingly

Mathematical Reserves Analysis for IT insurance - Summarizes the mathematical reserves, calculated from four sub-groups: direct business (meaning all retail insurance conducted through whatever channel), Reinsurance accepted (external), Reinsurance accepted (Intra-Group), Reinsurance ceded and net of reinsurance. The figures are all produced under individual analysis subject areas and summarized in this subject area. One form has to be completed for each category of assets (for example, With-profits, Unit-linked) and one summary form for the whole company. Dimensions: - Time (one snapshot figure for the end of the financial year) - Category of asset

Profit and Loss Analysis for P&C Insurance - Technical Account - Financial returns showing the key business measures (premiums, claims and expenses) and a final figure for transfer to the Profit and Loss account. Figures are reported on an accident year basis: first for activity based on the current year's underwriting, then adjustments for previous years (activity this year based on underwriting done in previous years), followed by any adjustment from underwriting year accounting as opposed to accident year accounting

Revenue Account for IT insurance - Income and Expenditure for the financial year, compared with the previous year. One form for the whole business and one for each fund category. Dimensions: - Time (total financial year and previous year) - Fund

Solvency Analysis for Supplementary Accident and Sickness Insurance - Within the Solvency Calculations for long-term insurance, there is a calculation for supplementary Accident and Sickness insurance offered by Life Companies. The calculation mirrors, in a simpler form, the solvency calculations for General Insurance

Summary of New Business for IT insurance - Analyzes linked funds and unit liability. Summarizes the analysis of New Business by fund type. Dimensions: - Time (current year and previous year)

Valuation Analysis by Contract and Business for IT insurance - Summarizes the valuation and reserve position for each asset category for all contracts within the long-term insurance fund, subdivided into twenty lower-level analyzes in a four-by-five two-dimensional structure as follows Dimensions: - Time (snapshot at end of the financial year) - Category of Assets - Product

With-Profits Funds - Payouts on Maturity Analysis - Tabulates the insurer's standard payouts and benefits for with-profits policies that continue to maturity (or, in the event of Pensions, to normal retirement) against a specified set of criteria. Dimensions: - Time - Class of business - Policy term

With-Profits Funds - Realistic Balance Sheet Analysis - Calculates the Realistic Surplus, the second of the Twin Peaks of capital adequacy for with-profits insurance funds, along with the Regulatory Surplus. The Realistic Surplus seeks to allow for future payments to policyholders which are in effect inevitable but which have historically not been included in capital adequacy calculations. Dimensions: - Time (end of current period and end of previous period) - Fund

Equalization Provisions Analysis - Calculates equalization provisions for the current financial year. Dimensions: - Time (current financial year) - Line of business

Equalization Provisions Technical Account - Underwriting Year Basis Analysis - Technical account information for the equalization provision, using the underwriting year accounting approach. Dimensions: - Time (underwriting year) - Line of Business
Underwriting year must be understood as follows. - Gross premiums written in an underwriting year must be the amount of such premiums arising in respect of contracts of insurance incepting during that underwriting year, whether or not they are received during that underwriting year. - Where an amount is required to be shown for claims in respect of an underwriting year, that amount must be determined on the basis of claims arising under contracts of insurance incepting during that underwriting year

Fixed and Variable Interest Assets Analysis for IT insurance - Analyzes the part of the insurer's assets represented by fixed and variable interest assets. One form has to be completed for each category of assets (for example, With-profits, Unit-linked, P&C) and one summary form for the whole company. Dimensions: - Time, one snapshot figure for the end of the financial year. - Category of assets

Linked Funds Balance Sheet Analysis - IT insurance - Analyzes linked funds and unit liability. Dimensions: - Time (current year and previous year) - Fund
Unit-linked: Some investment policies, such as endowment policies, are used to invest in other unit trust linked funds. These are called unit-linked life assurance policies. Traditional participating (with profits) and variable (unit-linked) contracts are examples of performance-linked contracts

Non-Linked Assets Analysis for IT insurance - Analyzes the insurer's assets not used to back linked or unit-linked funds, i.e. assets which back the with-profit and non-profit funds. Dimensions: - Time (one snapshot figure for the end of the financial year) – Fund

Revenue Account for Internal Linked Funds - IT insurance - Analyzes income and expenditure for internal linked funds and unit liability. Dimensions: - Time (current year and previous year) – Fund

Solvency Analysis for IT insurance - Calculates the Required Minimum Margin of solvency for insurers conducting long-term insurance business (Life and Pensions), including any supplementary Accident and Sickness Insurance carried by them. The calculation involves breaking down the business into the different classes of business which carry different solvency margins

Statement of Solvency for All Lines of Business - Statutory calculations required to demonstrate the solvency of the business. Is based on the assets of the business, the premiums received and the claims paid - all subject to various adjustments as defined by the regulators. This analytical subject area covers both the general insurance business and the long-term insurance business and serves as the overall statement of Solvency. Dimensions: - Time (snapshots at the end of the period in question and the previous period)

Summary of Premiums and Claims - P&C Insurance - A high-level report of premiums, claims and provisions by class of business according to statutory reporting requirements. Dimensions: - Time (full financial year) - Class of business (where class is by statutory reporting category)

Valuation Interest Rate Analysis for IT insurance - Analyzes the valuation interest rate for each long-term insurance fund which contains non-linked business, though smaller funds can be excluded as appropriate. Dimensions: - Time (snapshot as at end of valuation year) - Class of business - Fund

With-Profits Funds - Payouts on Surrender Analysis - Tabulates the insurer's standard payouts and benefits for with-profits policies that are surrendered before maturity against a specified set of criteria. Dimensions: - Time - Class of business - Policy duration at surrender

Risk and Compliance - Solvency II

QIS5 Balance Sheet Solo - Measures required for statutory reporting (for solvency supervision purposes) of balance sheet items of a solo insurance undertaking

QIS5 Balance Sheet Solo - Assets and Liabilities Valuation Analysis - Measures required for analyzing and reporting for solvency supervision purposes the proportions in which certain solvency balance sheet assets and liabilities are valued according to a specific Solvency II valuation method, such as:

- Whether external, independent value verification is performed
- Mark-to-market approaches
- Mark-to-model approaches
- Other compatible with Solvency II

QIS5 Balance Sheet Solo - Own Funds Liabilities - Measures required for statutory reporting (for solvency supervision purposes) of the balance sheet liabilities classified as Own Funds belonging to a solo insurance undertaking. Basic own funds shall consist of the following items:

1. the excess of assets over liabilities, valued according to a specific valuation basis
2. subordinated liabilities

The excess of assets over liabilities (minus holdings of own shares) plus subordinated liabilities and ancillary own funds gives a company's Own Funds.

QIS5 Balance Sheet Solo - Participations - Measures required for statutory reporting (for solvency supervision purposes) of the balance sheet assets belonging to a solo insurance undertaking (not a group) that are classified as investments in affiliated and participating interests, valued according to the Solvency II specification only. It covers participation in subsidiaries, associates and joint ventures means the ownership, directly or by way of control, of 20% or more of the voting rights or capital of an undertaking

QIS5 - Current Solvency I position - Measures detailing the organization's current Solvency I position

QIS5 Technical Provisions - Measures detailing Technical Provisions valued according to current valuation criteria

QIS5 Detailed TP - Life Business - Measures detailing Technical Provisions for Life business valued according to current accounting criteria differentiating by Life coverage primary segments

QIS5 Detailed TP for accepted NP reinsurance - Measures detailing Technical Provisions for accepted non-proportional reinsurance valued according to current accounting criteria

QIS5 Detailed TP for Non-life direct business - Measures detailing Technical Provisions for Non-life direct business and accepted proportional reinsurance valued according to current accounting criteria differentiating by Non-life coverage primary segments

QIS5 segmentation of Health insurance provisions - Measures detailing how the business currently regarded as Health insurance will be allocated to the QIS5 segmentation. The amounts requested are the technical provisions on a Solvency I basis and these measures only relate to obligations reported as health business under Solvency I

QIS5 Additional TP data for MCR calculation - Measures detailing technical provisions required for calculation of Linear MCR

QIS5 Best Estimate of TP - Life business - Measures detailing best estimate of technical provisions and of the amount of reinsurance recoverables for Life business

QIS5 Best Estimate of TP - Non-life business - Measures detailing best estimate of technical provisions and of the amount of reinsurance recoverables for Non-life business. These measures relate to Non-life business, accepted proportional reinsurance and accepted non-proportional reinsurance

QIS5 Allocation of TP - Life - Measures detailing the allocation of technical provisions in Illiquidity premium buckets and the value of modified duration (in years) of liabilities for Life business

QIS5 Allocation of TP - Non-life Direct - Measures detailing the allocation of technical provisions in illiquidity premium buckets and the value of modified duration (in years) of liabilities for Non-life direct business and accepted proportional reinsurance

QIS5 Allocation of TP - NP reinsurance - Measures detailing the allocation of technical provisions in illiquidity premium buckets and the value of modified duration (in years) of liabilities for accepted non-proportional reinsurance

QIS5 Risk margin and TP - Life business - Measures detailing risk margins, technical provisions and expected profits in future premiums for Life business

QIS5 Risk margin and TP - Non-life business - Measures detailing risk margins, technical provisions, underwriting risk volume and expected profits in future premiums for Non-life business. Non-life includes Direct business, accepted proportional reinsurance and accepted non-proportional reinsurance

QIS5 CoC RM - summary CoC RM calculations - Summary calculations of the solvency risk margin for non-hedgeable risks, determined according to a Cost-of-Capital approach

QIS5 CoC RM helper - full calculation future SCR - Helper calculations for the calculation of solvency capital requirements for the assumed reference undertaking in the takeover of the insurance obligations and reinsurance obligations of the original undertaking. The solvency capital requirements for the reference undertaking are calculated for the purpose of establishing the required solvency capital base for the calculation of the risk margin following the cost of capital method, for the Full Calculation risk margin calculation method

QIS5 CoC RM helper - imported data - Consolidation sheet of volume measures per business segment for the calculation of risk margin

QIS5 CoC RM helper - intermediate duration - Helper calculations for the calculation of liabilities and liability duration

QIS5 CoC RM helper - intermediate risk volume - Helper calculations for the calculation of solvency capital requirements for the assumed reference undertaking in the takeover of the insurance obligations and reinsurance obligations of the original undertaking. Risk volumes are measured for premium risk and reserve risk, with adjustments where required and aggregated to provide a risk measure per segment of line of business

QIS5 CoC RM helper - RM full calc - Helper calculation calculating a risk margin taking into account the cost of capital rate and the discounted cost of capital per currency and period. The discount takes into account the risk-free interest rate available for the given currency and period

QIS5 CoC RM helper - simplification - Life UW risk - Helper calculations for the simplified calculation of future Life underwriting risk in the full calculation of the risk margin

QIS5 CoC RM helper - simplification - non SLT health UW risk - Helper calculations for the simplified calculation of future non SLT health underwriting risk in the full calculation of the risk margin

QIS5 CoC RM helper - simplification - Non-life UW risk - Helper calculations for the simplified calculation of future Non-life underwriting risk in the full calculation of the risk margin

QIS5 CoC RM helper - simplification - SLT health UW risk - Helper calculations for the simplified calculation of future SLT health underwriting risk in the full calculation of the risk margin

QIS5 CoC RM helper - simplified calc of RM, CDR - Helper calculations for the simplified calculation of Counterparty Default Risk for the solvency capital requirements for the assumed reference undertaking in the takeover of the insurance obligations and reinsurance obligations of the original undertaking. The solvency capital requirements for the reference undertaking are calculated for the purpose of establishing the required capital base for the calculation of the risk margin following the cost of capital method, for the Risks Approximation risk margin calculation method

QIS5 Premium and expense data - Measures detailing premium and expense information required for calculation of the capital charge for operational risks

QIS5 Premiums for health (SLT) business - Measures detailing premium written and earned for Health (Similar-to-Life) business as required for calculation of the capital charge for operational risks

QIS5 Premiums for Life business - Measures detailing premium written and earned for Life business (excluding Health) as required for calculation of the capital charge for operational risks

QIS5 Premiums for Non-life - Measures detailing premium written and earned for Non-life and non-SLT Health business as required for calculation of the capital charge for operational risks

QIS5 Risk margin and TP - Life business - Measures detailing risk margins, technical provisions and expected profits in future premiums for Life business

QIS5 Risk margin and TP - Non-life business - Measures detailing risk margins, technical provisions, underwriting risk volume and expected profits in future premiums for Non-life business. Non-life includes Direct business, accepted proportional reinsurance and accepted non-proportional reinsurance

QIS5 SCR - Standard Formula - Measures the standard formula prescribed for the calculation of the Solvency Capital Requirement, for a solo insurance undertaking (not a group/parent) - Data and calculations specified according to the methodology tested in the Fifth Quantitative Impact Study (QIS5) by the Committee of European Insurance and Occupational Pension Supervisors (CEIOPS)

QIS5 SCR - Operational Risk - Measures the calculation of the specific solvency capital requirement amount driven by operational risks

QIS5 SCR - Market Risk - Measures the calculation of the solvency capital charge for the risk driven by volatility of market prices for financial instruments (for example, exchange rates, equities prices, interest rates)

QIS5 SCR - Market Risk Concentration analysis by counterparty - Measures solvency capital charges related to extra market risks due to concentrated asset portfolio, by counterparty

QIS5 SCR - Market Risk Spread analysis by exposure - Measures solvency capital charge related to the credit spread sub-risk module of the SCR market risk module, at the level of an individual exposure (financial asset)

QIS5 SCR - Counterparty Default Risk - Summarized measures for the risk driven by the possibility of default of counterparties to risk mitigation contracts or owning receivables

QIS5 SCR - Life Underwriting Risk - Measures the specific risks driven by underwriting of life insurance contracts- the Life underwriting sub-risks covered in this subject area are: mortality, longevity, disability/morbidity, lapse, expense, revision and catastrophe

QIS5 SCR - Non-life Underwriting Lapse Risk - Measures the specific risks driven by underwriting of Non-life insurance contracts. Refers to uncertainties as to existing insurance obligations and the new business expected to be written over the following twelve months and more specifically to the lapse risk

QIS5 SCR - Non-life Underwriting Premium and Reserve Risk - Measures the specific risks driven by underwriting of Non-life insurance contracts - refers to uncertainties as to existing insurance obligations and the new business expected to be written over the following twelve months and more specifically to the Non-life premium and reserve risk

QIS5 SCR - Non-life Underwriting Lapse Risk - Measures the specific risks driven by underwriting of Non-life insurance contracts -refers to uncertainties as to existing insurance obligations and the new business expected to be written over the following twelve months and more specifically to the lapse risk

QIS5 SCR - Non-life Underwriting Catastrophe Risk - Measures the specific risks driven by underwriting of Non-life insurance contracts - refers to uncertainties as to existing insurance obligations and the new business expected to be written over the following twelve months and more specifically to the catastrophe risk

QIS5 SCR - Health Underwriting Risk - Measures the specific risks driven by underwriting of health insurance contracts. The health underwriting sub-risks covered in this subject area are: a) the SLT Health underwriting risk sub-module; b) the Non-SLT Health underwriting risk module, c) the catastrophe underwriting risk module

QIS5 SCR - Health Underwriting SLT Risk - Measures the specific risks driven by underwriting of Health SLT insurance contracts, i.e., health insurance obligations pursued on a similar technical basis to that of life insurance

QIS5 SCR - Health Underwriting Non-SLT Risk - Measures the specific risks driven by underwriting of Health non-SLT insurance contracts, i.e., health insurance obligations not pursued on a similar technical basis to that of life insurance

QIS5 SCR - Health Underwriting Catastrophe Risk - Measures the specific risks driven by underwriting of Health insurance contracts, such as the risk of loss or of adverse change in the value of insurance liabilities, resulting from uncertainties on pricing, provisioning and risks accumulation generated by extreme event such as epidemics. Three standardized health catastrophes scenarios are considered: arena disaster, concentration scenario and pandemic scenario. Scenarios are provided gross of reinsurance and all other mitigation instruments such as national pools. Undertakings should net down their gross estimation to reflect such protection

QIS5 SCR - Intangible Asset Risk - Measures the specific risks driven by intangible assets. Refers to uncertainties as to market risks (such as decrease of prices in the active market) and internal risk specific to internal nature of intangible assets

QIS5 MCR - Overall MCR calculation - Measures the statutory calculations required to determine the minimum level of capital an insurance undertaking must hold in order to avoid the ultimate regulatory action of close to new business and portfolio run-off or transfer. Covers the overall calculation prescribed for the calculation of the Minimum Capital Requirement, for a solo insurance undertaking

QIS5 MCR - Life MCR_{life} - Measures the calculation and analyzes the amount of capital an insurance undertaking is required to hold in order to be considered minimally solvent, in relation to Life underwriting risks (before applying any cap or floor)

QIS5 MCR - Non-life MCR_{nl} - Measures the calculation and analyzes the amount of capital an insurance undertaking is required to hold in order to be considered minimally solvent, in relation to underwriting risks on Non-life business (before applying any cap or floor)

QIS5 MCR - Composite calculation - Measures the calculation and analyzes the amount of capital an insurance undertaking is required to hold in order to be considered minimally solvent, in relation to composite insurance undertakings

Solvency II CP58 A1 - Coversheet - A high-level view of all reporting for Solvency II by business unit (organization) and line of business (life, GI, health)

Solvency II CP58 B1 - Own Funds - Measures statutory reporting (for solvency supervision purposes) of the balance sheet liabilities classified as Own Funds belonging to a solo insurance undertaking (not a group)

Solvency II CP58 B2A - Basic SCR charges for firms on standard formula or partial internal models - Statutory calculations to demonstrate the solvency of the business to regulators, for an insurance undertaking (either a solo entity or a group)

Solvency II CP58 B2B - Solvency Capital Requirement - for firms on Full Internal Models - Summary of the statutory calculations to demonstrate the solvency of the business to regulators, for an insurance undertaking (either a solo entity or a group)

Solvency II CP58 B3A - Basic SCR charges for market risks - Measures for risk driven by the volatility of market prices for financial instruments (for example, exchange rates, equities prices, interest rates)

Solvency II CP58 B3B - Reinsurance exposures - Summarized measures representing a snapshot of the largest exposures by reinsurer counterparty

Solvency II CP58 B3B - Basic SCR charges for counterparty default risks - Summarized measures for the risk driven by the possibility of default of all counterparties to risk mitigation contracts, such as reinsurance, securitizations and derivatives, receivables from intermediaries and credit exposures not covered by the spread risk module

Solvency II CP58 B3C - Basic SCR charges for Life underwriting risks - Measures the specific risks driven by underwriting of life insurance contracts. The Life underwriting sub-risks covered in this subject area are: mortality, longevity, disability, lapse, expense, revision and catastrophe

Solvency II CP58 B3D - Basic SCR charges for health underwriting risks - Measures the specific risks driven by underwriting of health insurance contracts

Solvency II CP58 B3E - Basic SCR charges for non Life underwriting risks - The total amount of capital charges an insurance undertaking must hold in order to mitigate the risks of insolvency driven by specific risks of underwriting and processing Non-life insurance contracts

Solvency II CP58 B3F - Solvency Capital Requirement - Operational risk SCR - Statutory calculations to demonstrate the solvency of the business to regulators, for an insurance undertaking (either a solo entity or a group)

Solvency II CP58 B4A and B4Q - Final MCR calculation - Statutory calculations to determine the minimum level of capital an insurance undertaking must hold in order to avoid the ultimate regulatory action of close to new business and portfolio run-off or transfer. Covers the overall formulas prescribed for the calculation of the Minimum Capital Requirement, for a solo insurance undertaking (not a group/parent)

Solvency II CP58 B4A and B4Q - Life MCR calculation - The amount of capital an insurance undertaking is required to hold in order to be considered minimally solvent, calculated in relation to Life underwriting risks (before applying any cap or floor)

Solvency II CP58 B4A and B4Q - Life MCRx calculation - The amount of capital an insurance undertaking is required to hold in order to be considered minimally solvent, calculated in relation to supplementary Non-life business underwritten in addition to life insurance (before applying any cap or floor)

Solvency II CP58 B4A and B4Q - Non-life MCR calculation - The amount of capital an insurance undertaking is required to hold in order to be considered minimally solvent, calculated in relation to Non-life underwriting risks (before applying any cap or floor)

Solvency II CP58 B4A and B4Q - Non-life MCRx calculation - The amount of capital an insurance undertaking is required to hold in order to be considered minimally solvent, calculated in relation to supplementary Non-life business underwritten in addition to life insurance (before applying any cap or floor)

Solvency II CP58 B4A and B4Q - Notional Life and Non-life MCR calculation - The notional amount of capital an insurance undertaking is required to hold in order to be considered minimally solvent, calculated in relation to Life and Non-life underwriting risks

Solvency II CP58 C1 - Balance Sheet - Measures required for statutory reporting (for solvency supervision purposes) of C1 template balance sheet items

Solvency II CP58 C2 - Profit and Loss Account - The Profit and Loss account as derived within the Financial Reporting function. This representation includes Life and Non-life technical accounts and is based on the reporting year

Solvency II CP58 D1 - Investment Data Portfolio List - Lists investments details for investment portfolios. These investments pertain to securities and bonds

Solvency II CP58 D2 - Counterparties - Shows all counterparties with respect to the portfolio holdings. Counterparty is the party which holds or sold the investment. For instance for investments in a fund, the counterparty can be the broker, the financial institution or the other involved organization

Solvency II CP58 D3 - Property Held for Investment - Details individual investment properties held such as buildings

Solvency II CP58 D4 - Derivatives - Details all derivatives contracts and data

Solvency II CP58 D5 - Collective Investment Schemes - Refers to Collective Investment Schemes (funds, mutual funds) classified by unlinked, property linked, index linked

Solvency II CP58 E1 - Life Technical Provisions - Lists all Fair Value reserves, split in Best Estimates and Risk Margins for Life policies with/without risk participation and depending on risk appetite of the policyholder. New Business separation shows the latest development in that area, direct written and reinsurance accepted is separated to show the risk sharing via market cooperation

Solvency II CP58 E2 - Non-life Technical Provisions - Lists all Fair Value reserves, split in Best Estimates and Risk Margins for Non-life policies that are direct written or reinsurance accepted via market cooperations. The respective reserves are related to expected claim and premium provisions

Solvency II CP58 E3 - Life - changes in own funds - Lists the amounts and the reasons for changes in Life own funds.

Solvency II CP58 E4 - Valuation basis - Non-life - Lists the economic assumptions (interest rates, expense inflation, claims inflation) of fair value calculation for Non-life technical provisions and premiums

Solvency II CP58 E5 - Valuation assumption - Life - Lists the economic, mortality, lapse and expense assumptions of fair value calculation for Life technical provisions and premiums

Solvency II CP58 F1 - Life revenue analysis - Claims - Lists life insurance of the different types of claimed benefits on own and ceded risks

Solvency II CP58 F1 - Life revenue analysis - Expenses - Lists life insurance of the different types of expenses on own and ceded risk

Solvency II CP58 F1 - Life revenue analysis - Premiums - Lists life insurance of the different types of premium income on own and ceded risk

Solvency II CP58 F2 - Life Premium - Reports the Life premium income in the structure of new business, changed and unchanged existing policies separated before and after reinsurance ceded

Solvency II CP58 F3 - Non-life technical account - MVM - Lists Non-life insurance lines of business premiums written (gross and ceded), claims paid (gross and ceded), net operating expenses and best estimate increase or best estimate decrease of technical provisions

Solvency II CP58 F3 - Non-life technical account per LOB - Lists Non-life insurance premiums written (gross and ceded), claims paid (gross and ceded), net operating expenses and best estimate increase or best estimate decrease of technical provisions

Solvency II CP58 F4 - Distribution of profits for with profits funds - Reports each profit sharing fund the way how the surplus profit is distributed during the reporting period

Solvency II CP58 F5 - Non-life Insurance Premium Information - Reports the age structure of Non-life policies for each LOB, how much premium is earned on own risk and ceded risks on an incremental base over the last reporting years. Reporting based on earned premium per year written based on reporting year

Solvency II CP58 F6 - Non-life Insurance Gross Expense Information - Lists each Non-life LOB the different types of costs and expenses in the age structure of the policies for the reporting period

Solvency II CP58 G1 - Life Liability Analysis - Measures supplemental analysis dealing with Life liabilities

Solvency II CP58 G2 - New Life Business Analysis - Incr - Measures supplemental analysis dealing with new Life business

Solvency II CP58 G2 - New Life Business Analysis - New - Measures supplemental analysis dealing with new Life business

Solvency II CP58 G3 - Non-life Insurance Premium Information - Measures Non-life insurance premiums pertaining to future cash-flow assumptions from existing business based on reporting year

Solvency II CP58 G4 - Projection of Future Cash Flows - Present Value - Measures future net present value of cash flows over projected years from reporting year

Solvency II CP58 G4 - Projection of Future Cash Flows - Undiscounted - Measures future undiscounted cash flows over projected years from reporting year

Solvency II CP58 H1 - Non-life IBNR - Measures Non-life claims information by underwritten year based on reporting year. For claim status: IBNR

Solvency II CP58 H2 - Gross Claims Outstanding (RBNS) - Measures Non-life Reported But Not Settled claims by accident year based on reporting year

Solvency II CP58 H3 - Non-life Insurance Claims Information - IBNR - Measures Non-life claims information by underwritten year based on reporting year. For claim status: IBNR

Solvency II CP58 H3 - Non-life Insurance Claims Information - Outstanding - Measures Non-life claims information by underwritten year based on reporting year. For claim status: outstanding

Solvency II CP58 H3 - Non-life Insurance Claims Information - Paid - Measures Non-life claims information by underwritten year based on reporting year. For claim status: paid

Solvency II CP58 H4 - Non-life Insurance Claims Annuities and life-like liabilities - Measures relating to information about Non-life claims annuities or life-like liabilities stemming from Non-life insurance claims, based on reporting year

Solvency II CP58 H5 - Non-life Insurance Exposure and Claim Numbers - Exposure - Measures Non-life insurance exposures and claim numbers based on reporting year

Solvency II CP58 H5 - Non-life Insurance Exposure and Claim Numbers - Outstanding - Measures Non-life insurance outstanding exposures and claim numbers based on reporting year

Solvency II CP58 H5 - Non-life Insurance Exposure and Claim Numbers - Settled - Measures settled Non-life insurance exposures and claim numbers based on reporting year

Solvency II CP58 J1 - Risk profile - Life - Measures Life risk exposure statistics (risk profile) based on reporting year

Solvency II CP58 J1 - Risk profile - Non-life - Measures Non-life risk exposure statistics (risk profile) based on reporting year

Solvency II CP58 J2 - Loss profile - Life - Measures Life loss exposure statistics based on reporting year

Solvency II CP58 J2 - Loss profile - Non-life - Measures Non-life loss exposure statistics based on reporting year

Solvency II CP58 J3 - Facultative Risk - Life - Lists top-10 facultative risks for Life policies based on reporting year

Solvency II CP58 J3 - Facultative Risk - Non-life - Lists top-10 facultative risks for Non-life policies based on reporting year

Solvency II CP58 J4 - Share reinsurers - Lists reinsurers share details related to technical provisions, current account and earned outgoing reinsurance premiums based on reporting year

Solvency II CP58 J5 - Outgoing Reinsurance Program - Life - Lists life reinsurance treaty details based on reporting year

Solvency II CP58 J5 - Outgoing Reinsurance Program - Non-life - Lists Non-life reinsurance treaty details based on reporting year

Risk and Compliance - Sarbanes Oxley Act (SOA)

Sarbanes Oxley Act Analysis (SOA) - Allows the generation and analysis of the Security And Exchange Commissions (SEC) 10Q and 10K reports, which support the financial institution with regard to compliance with Sections 302 and 404 of the Sarbanes Oxley Act

Sarbanes Oxley Act Cash Flow Analysis - Analyzes a financial institution's Cash Flow which is the amount of cash a financial institution generates and uses during a period, calculated by adding non-cash charges (such as depreciation) to the net income after taxes. The Sarbanes Oxley Act Cash Flow Analysis template assists financial institutions in optimizing report generation with regard to the Securities And Exchange Commissions (SEC) Forms 10Q and 10K regulatory filing requirements.

Sarbanes Oxley Act stmt chg shrhldr eqty Analysis - Analyzes a financial institution's Statement Of Changes In Shareholders' Equity which includes net profit/loss for period, other gains and losses recognized directly in shareholders equity and the impact of changes in accounting policy and fundamental errors when these are presented as a prior period adjustment

Sarbanes Oxley Act Balance Sheet Analysis - Analyzes the financial institution's 10Q and 10K financial statement reports which report the financial institution's total assets, total liabilities and total shareholders equity at a specific time. The Sarbanes Oxley Act Balance Sheet Analysis template assists financial institutions in optimizing report generation with regard to the Securities And Exchange Commissions (SEC) Forms 10Q and 10K regulatory filing requirements

Sarbanes Oxley Act Statement of Income Analysis - Assists financial institutions in optimizing report generation with regard to the Securities And Exchange Commissions (SEC) Forms 10Q and 10K regulatory filing requirements.

Risk and Compliance – International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS)

Admissible Assets Analysis - Analyzes the insurer's assets. In Financial Reporting, one form has to be completed for each category of assets. Dimensions: - Time dimension shows snapshots at the end of the period in question and the previous period. - Category of assets.

Balance Sheet Net Assets Approach Analysis - Analyzes a financial institution Balance Sheet which reports the financial institution's assets, liabilities and net worth at a specific time. The Net Assets approach is utilized for the associated measures and dimensions.

Balance Sheet Portfolio Basis Approach Analysis - Analyzes a financial institution Balance Sheet which reports the financial institution's assets, liabilities and net worth at a specific time. The Portfolio Basis approach is utilized for the associated measures and dimensions

Cash Flow Direct FI Analysis - Analyzes a financial institution's Cash Flow which is the amount of cash a financial institution generates and uses during a period, calculated by adding noncash charges (such as depreciation) to the net income after taxes. The Direct Financial Institution approach is utilized for the associated measures and dimensions. International Financial Reporting Standard IAS 1 102 International Financial Reporting Standard IAS 1 8 d

Cash Flow Indirect FI Analysis - Analyzes a financial institution's Cash Flow which is the amount of cash a financial institution generates and uses during a period, calculated by adding noncash charges (such as depreciation) to the net income after taxes. The Indirect Financial Institution approach is utilized for the associated measures and dimensions. International Financial Reporting Standard IAS 1 102 International Financial Reporting Standard IAS 1 8 d

IAS39 Hedge Measurement Analysis - Contains the base measures required for the calculation of Hedge Measurement according to the requirements of the International Financial Reporting Standards (IFRS) and more precisely International Accounting Standard (IAS) 39

Income Statement by Function Analysis - Analyzes a financial institution Income Statement which is a financial report that by summarizing revenues and expenses, and showing the net profit or loss in a specified accounting period it depicts a financial institution's financial performance due to operations as well as other activities rendering gains or losses. Also known as the profit and loss statement. The Function approach is utilized for the associated measures and dimensions.

Income Statement FI Approach Analysis - Analyzes a financial institution Income Statement which is a financial report that by summarizing revenues and expenses, and showing the net profit or loss in a specified accounting period it depicts a financial institution's financial performance due to operations as well as other activities rendering gains or losses. Also known as the profit and loss statement. The Financial Institution approach is utilized for the associated measures and dimensions. International Financial Reporting Standard IAS 1 8

Liabilities and Margins Analysis for IT insurance - Calculates and aggregates all the liabilities and margins which relate to long-term insurance. It is used as part of the Profitability and Solvency returns. One analysis per category of assets (including with profit, unit linked, non profit, stakeholder)

Profit and Loss (Non-Technical Account) Analysis - The Profit and Loss account as derived within the Financial Reporting function. Dimensions: - Time (shows values for the whole of the period in question and the previous period)

Valuation Analysis for Financial Instruments - The actuarial valuation process, typically conducted once per year, which governs the distribution of surplus, declaration of profits and measurability against the statutory solvency requirements. The valuation is conducted once per 'fund or part of fund for which a surplus is determined', which can be an individually-marketed fund or an asset category (for example, with-profit, non-profit) and aggregated for these other analyses

Balance Sheet Classified Approach Analysis - Analyzes a financial institution Balance Sheet which reports the financial institution's assets, liabilities and net worth at a specific time. The Classified approach is utilized for the associated measures and dimensions

Balance Sheet Order of Liquidity Approach Analysis - Analyzes a financial institution Balance Sheet which reports the financial institution's assets, liabilities and net worth at a specific time. The Order Of Liquidity approach is utilized for the associated measures and dimensions

Cash Flow Direct Analysis - Analyzes a financial institution's Cash Flow which is the amount of cash a financial institution generates and uses during a period, calculated by adding noncash charges (such as depreciation) to the net income after taxes. The Direct approach is utilized for the associated measures and dimensions. International Financial Reporting Standard IAS 1 102 International Financial Reporting Standard IAS 1 8 d

Cash Flow Indirect Analysis - Analyzes a financial institution's Cash Flow which is the amount of cash a financial institution generates and uses during a period, calculated by adding noncash charges (such as depreciation) to the net income after taxes. The Indirect approach is utilized for the associated measures and dimensions. International Financial Reporting Standard IAS 1 102 International Financial Reporting Standard IAS 1 8 d

Claims Monthly Close Off Analysis - The claims monthly close off analysis records measures used to reconcile claims outstanding versus claims estimates. This analytical area provides executives with the ability to state claim liabilities on a monthly basis. Dimensions: - Time (grain: Monthly snapshot) - Product component (grain: Product component)

Impairment Analysis - Analyzes financial assets of which the carrying amount is greater than the recoverable amount. At each reporting date an enterprise should assess whether there is objective evidence that a financial asset or portfolio of assets is impaired. Dimensions: - Time - Fund

Income Statement by Nature Analysis - Analyzes a financial institution Income Statement which is a financial report that by summarizing revenues and expenses, and showing the net profit or loss in a specified accounting period it depicts a financial institution's financial performance due to operations as well as other activities rendering gains or losses. Also known as the profit and loss statement. The Nature approach is utilized for the associated measures and dimensions

Liabilities Analysis for P&C (Non-life) Insurance - Analyzes all the liabilities of the business, comparing the current financial year with the previous year, and linking through to the Profit and Loss and Solvency statements

Net Assets Analysis - Models the Statement of Net Assets for an insurer's Financial Reporting returns. This brings together the two Admissible Assets Analysis forms, one for long-term business and one for the rest. Dimensions: - Time (snapshots at the end of the period in question and the previous period) Net Assets comprise excess of the value of securities owned, cash, receivables and other assets over the liabilities of the organization, included on the Balance Sheet, which is a financial statement that shows the financial position of the organization at a particular date. It consists of a list of assets, liabilities and fund balances

Statement of Changes in Equity Analysis - Analyzes a financial institution's Statement Of Changes In Equity which includes net profit/loss for period, other gains and losses recognized directly in equity and the impact of changes in accounting policy and fundamental errors when these are presented as a prior period adjustment.

Risk Management

Auto Coverage Risk Period Analysis - Analyzes exposure-to-risk for a specific policy, coverage and vehicle. Risk periods are constrained by the criteria such as maximum time period, maximum of one accident, premium per unit time constant. Dimensions: - Time - Person - Vehicle - Intermediary - Policy - Household - Coverage

Credit Contract Analysis - Analyzes credit contracts and use of credit as a function of policyholder profile and financial product. Dimensions: - Time - Product - Policyholder - Policy - Financial objective

Effect of Financial Engineering on Solvency Analysis - Covers the potential impact of financial engineering on a long-term (such as life/health) insurer. Dimensions: - Time dimension shows snapshots at the end of the period in question and the previous period. Financial engineering is the process of employing mathematical finance and computer modeling skills to make pricing, hedging, trading and portfolio management decisions. Utilizing various derivative securities and other methods, financial engineering aims to precisely control the financial risk an entity takes on. Methods can be employed to take on unlimited risks under certain events, or completely eliminate other risks by utilizing combinations of derivative and other securities

Insurance Risk Analysis - Insurance risk relates to the uncertainty on the frequency, severity and time to payment of future claims and associated expenses. Also called underwriting or liability risk, its definition strongly depends on the specific character of the insurance product. The different sources of insurance risk are: - Model and parameter uncertainty (including the risk of parameters that change in time, such as uncertainty due to mortality trends or changes in legislation) - Volatility risk - Extreme event risk (catastrophes). Insurance risk also includes risks/uncertainty due to policyholder behavior once the insurance contract has come into force

Investment Contract Analysis - Analyzes investment contracts in monetary funds and unit-linked funds. Analysis of correlation between allocation of savings at a given point in time as a function of policyholder profile and type of underlying investment vehicle. Dimensions: - Time - Product - Policyholder - Policy - Investment vehicle - Fiscal regime - Financial objective

Marine Claim Handling Analysis - Measures the number of ship claims, total claim amount, reinsurance and third-party recovery. Dimensions: - Time - Ship - Geographic area - Skipper - Intermediary - Policy - Product - Claim - Policyholder

Maritime Loss Event Analysis - Analyzes maritime loss events. Dimensions: - Time (grain: daily) - Ship - Skipper - Product (grain: product component) - Geographic area (grain: loss event location)

Market Risk Analysis - Evaluates the risk that the economic position of the company is affected by the performance of the financial markets. It includes the potential effects on the actual values of the assets and the liabilities (and therefore on the volatility of the surplus) as well as the potential effects on the level of the insurance liability cash flows through profit-sharing arrangements. Market risk includes inflation risk as far as inflation can affect future insurance liabilities (indexation) and expenses. Specific issues such as guarantees and embedded financial options, potential effects on policyholder behavior and management discretion applied in performance-linked profit sharing should also be addressed. IFRS 4.39(d), IAS 32.76

Reinvestment Analysis - Analyzes reinvestments in investment contracts, which can or cannot result from marketing campaigns, as a function of policyholder profile. Dimensions: - Time - Event - Product - Policyholder - Policy - Fiscal regime - Financial objective

Underwriting Analysis - Analyzes contracts and coverages underwritten, as a function of customer profile, marketing campaigns, product and coverage profile, intermediary profile and commission profile. Dimensions: - Time - Intermediary - Product component - Party profile - Organization - Coverage - Policy - Commission - Charge - Investment vehicle - Fiscal regime - Financial objective - Underwriter

Underwriting KPI for Improvement Analysis - Analyzes the key performance indicators for the underwriting processes, to improve profit margin. Dimensions: - Time - Line of business - Product - Coverage - Task: business activity, sub-process, process

Auto Premium Payment Analysis - Measures policy component payments - premium income - and interest income gained from investment of premium in money markets. Dimensions: - Time - Vehicle - Place - Intermediary - Policy - Product

Credit Withdrawal Analysis - Analyzes credit withdrawals and use of credit as a function of policyholder profile and financial product. Dimensions: - Time - Product - Party profile - Policy - Financial objective

Financial Risk Analysis - Includes the risk of a possible change in one or more of a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating or credit index. The most important components of this financial risk are interest rate risk, equity price risk, currency risk and credit risk. IFRS 4.IG2, Examples 1.15 and 1.19; IAS 39.AG12A. Financial risk is defined in terms of changes in the same variables used in the definition of a derivative in IAS 39

Interest Rate Risk Analysis - Analyzes the exposure of an asset or liability to market fluctuations in the level of interest rates. Particularly important is the impact of changes in the level of interest rates in long-term insurance and investment contracts with guaranteed and fixed terms and long-term insurance and contracts with discretionary participatory features (DPF); long-term insurance and investment contracts without fixed terms (unit-linked); and borrowings and other financial assets (for example,; interest rate swaps)

Liquidity Risk Analysis - Analyzes the potential that the Financial services company can be unable to meet its obligations as a consequence of a timing mismatch between asset and liability cash flow patterns. The insurer is exposed to daily calls on its available resources mainly from claims arising from short term insurance contracts

Maritime Coverage Risk Period Analysis - An analysis period of exposure-to-risk for a specific policy, coverage and ship. Risk periods are constrained by the criteria such as maximum time period, maximum of one accident, premium per unit time constant. Dimensions: - Time - Ship - Intermediary - Policy - Coverage

Market Analysis - Analyzes market trends. Dimensions: - Time - Line of business - Competitor/Partner - Geographic area - Distribution channel

Operational Risk Analysis - Analyzes the financial institution's operational risk loss events, the total exposure, loss insurance amounts, write-offs and other adjustments, in order to determine the actual impact on the financial institution's capital. The risk of loss results from inadequate or failed internal processes, people and systems or from external events

Risk Pricing Analysis - Measures claims (for example, claim frequency, claim severity) and policies (for example, earned premium) and the estimates generated as part of the Generalized Linear Model. Dimensions: - Time - Intermediary - Organization - Policy - Product

Underwriting KPI for Growth Analysis - Analyzes the key performance indicators for the underwriting processes, to grow revenue. Dimensions: - Time - Line of business - Product - Coverage - Intermediary
Underwriting KPI for Optimization Analysis

Underwriting analysis - Analyzes contracts and coverages underwritten, as a function of customer profile, marketing campaigns, product and coverage profile, intermediary profile, and commission profile.

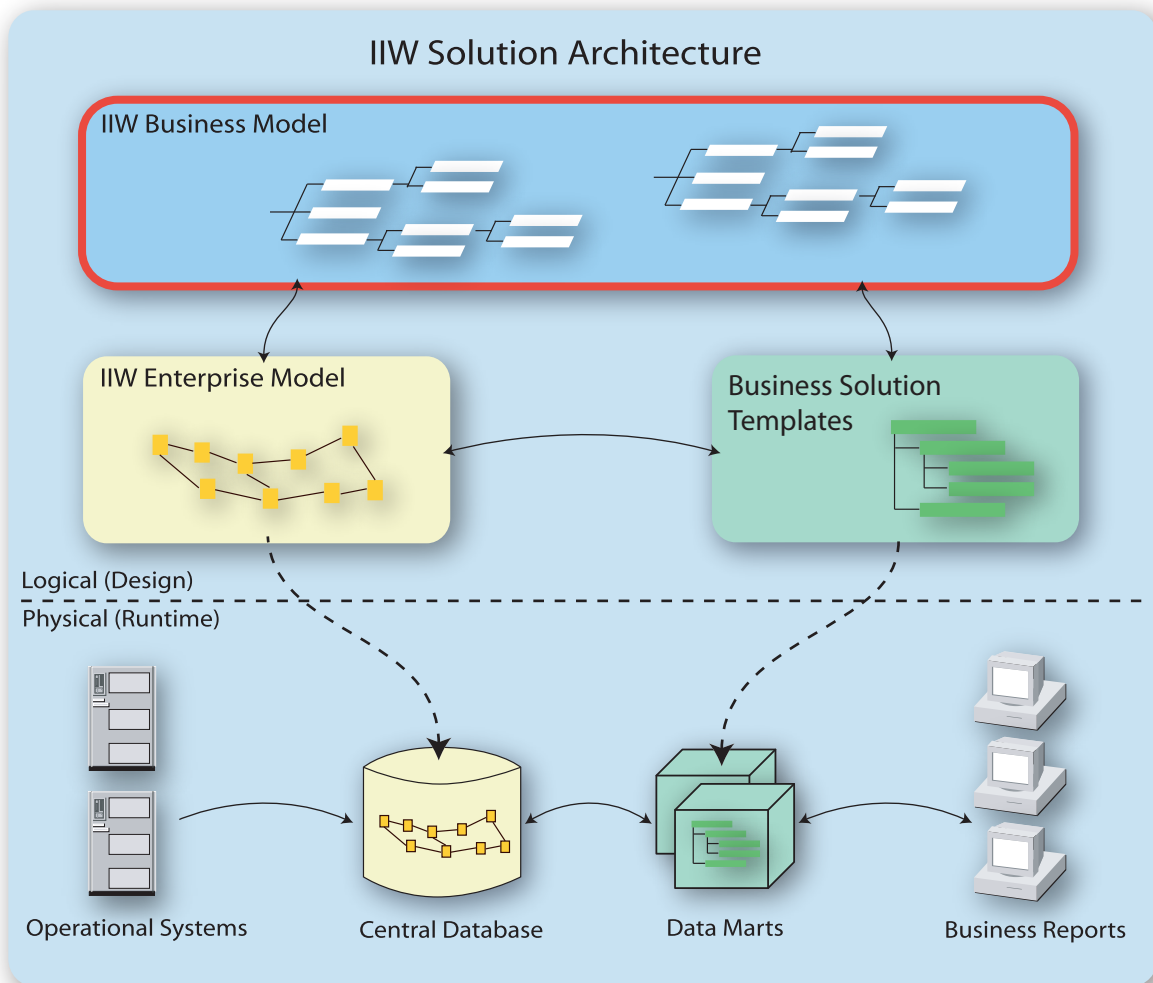
Underwriting KPI for improvement analysis - Analyzes the key performance indicators for the underwriting processes, to improve profit margin.

Coverage component valuation analysis - Valuates a life or long-term insurance policy coverage through a set of measures calculated at an effective valuation date and on a specific valuation basis. A Coverage Component Valuation is related to one policy coverage and, indirectly, to one insurance product component that underpins a coverage / benefit. A policy coverage may have several instances of Coverage Component Valuations related to it at the same time (same valuation date), each instance being calculated on a specific valuation basis.

Policy valuation analysis - Valuates a life or long-term insurance policy, summarised over all coverages / benefits that a policy contains.



Business Model



Designed specifically for the insurance industry, the IIW Business Model is a data model containing thousands of carefully constructed business definitions reflecting the result of many person-years of analysis. It provides an enterprise-wide view of data common to all insurers.

The Business Model has been developed to provide the insurer with a jump start in its model development process and to assist in maximizing the value of its information. It is a generic model, defining data widely applicable to any insurer. The information reflected in the data model is independent of organizational structure and has been validated by multiple sources within the industry.

The Business Model provides a vehicle for merging requirements of existing models and is designed for stability, flexibility and reusability. By using this model, the information management team can proactively support the business response to the dramatic changes that drive today's insurance industry.

The IIW Business Model represents upwards of 80% of the data required by an insurer in carrying out its core business. Rather than a simplistic listing of data types and definitions, it is a fully defined set of fulfilled business requirements, delivered in a model structure designed to address key issues that face insurers in the current environment of deregulation, changing social welfare parameters, product innovation and accelerating technological change, and to reflect the industry's key business values.

The Business Model covers data to support analysis such as:

Improved customer care	The Business Model reflects the complex interrelationships between customers and between customers and the insurer. The Business Model distinguishes between the natures of the customers themselves and the relationship the customer has with the insurer and becomes a pivotal component in the insurer's response to changing market dynamics. The model exposes the data that enables the business to refine its approach to the management of customer relationships while providing information systems staff with a blueprint for integrated customer care systems.
Rapid development of new products	The Business Model recognizes that products can be rapidly assembled from fundamental components and readily packaged together. The model understands the distinction between marketable products and the components that make up those products. Further, the model recognizes the complex ways in which a product can be acquired by a customer and then be serviced by direct or indirect channels. By clarifying the distinction between a marketed product and the policy, pension or investment policies themselves, the model enables the insurer to plan and manage the increasingly complex relationships between the products and services offered and the means of selling, servicing and fulfilling those products and services.
Complex relationships with competitors	The Business Model recognizes that competitors can also be customers and, on occasion, strategic partners. The model allows for these changing roles and the corporate policies, regulations and agreements that impact these roles.
Integration of business	The Business Model does not differentiate fundamental data according to lines of business or organizational structures. The model reflects a fully integrated view of data that can be used by all segments of the business. The model focuses on providing the insurer with a means of understanding the different facets of each business challenge, and how those facets can then be combined into a solution. The model cuts through the confusion of legacy systems and provides the path to coordination among business applications.

Features

The Business Model is an enterprise-wide model of the business requirements of a global, generic player in the Insurance Industry. Expressed in data that satisfies those requirements, the Business Model covers the many business areas in the insurance industry. Its key features are:

- A layered model structure with sufficient detail to represent the data requirements of a multi-line insurer operating in an international environment
- Use of advanced modeling techniques to encourage reusability of system assets
- Composite data model for defining system requirements
- Designed for flexibility in extension and expansion
- Customizable to provide a platform for improved data management and systems development
- Structured to provide direct benefit in all phases of the systems development life cycle
- Defined with full integration to the Enterprise Model
- Structured starting point to integrate data and process

Benefits

- Rigorous specification of data requirements to reduce redundancy of information across the enterprise
- Common definitions for improved accuracy and consistency of data
- Facilitates the application development life cycle thereby reducing system and lost opportunity cost
- Consistent data architecture for modeling new or changed requirements
- Customizable model and that can incorporate the organization's unique data requirements and business rules
- Focuses the development effort on validating, enhancing, and extending data requirements rather than devoting time to the labor-intensive process of developing a data model for the enterprise from the ground up.

IIW has been developed with the assistance of insurance companies, other insurance professionals and data warehousing experts. The structure, especially that of the business model, is designed to be readily understood and navigated by those who may have had minimal exposure to data modeling. At the same time, the structure and rigor of IIW satisfies the needs of the experienced modeler and analyst. Consequently, IIW provides a communication bridge between the business and the technical professionals within the organization.

Packages

The Business Model is organized into key packages, each focused on a specific business concept:

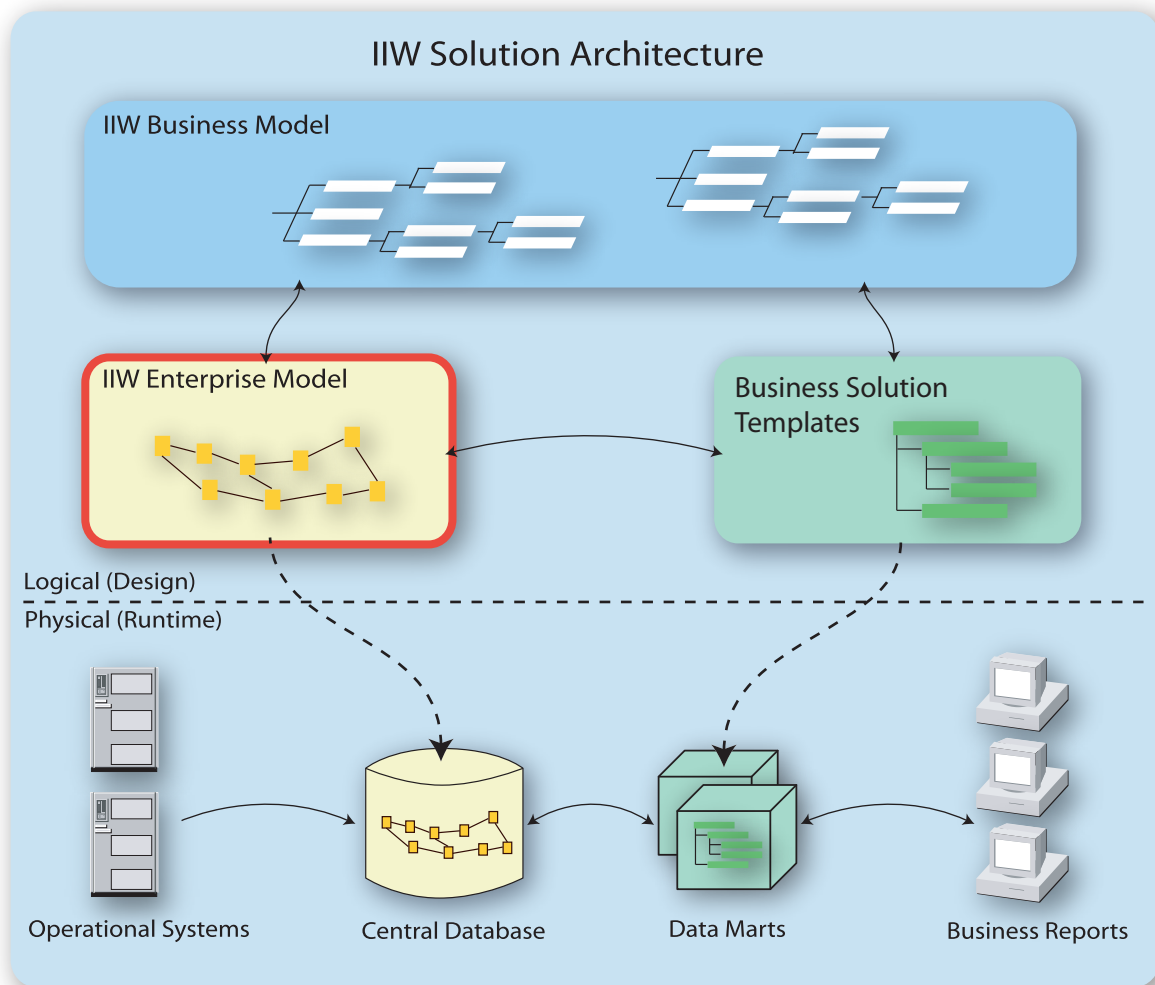
Account and Fund	Customer accounts, monetary accounts (such as liabilities, reserves and revenues), financial asset holding and funds need to be considered in the insurer's accounting process.
Activity	Various activities are of interest to an insurer, especially those in the underwriting and claims management areas. During the underwriting process, the insurer needs to understand its exposed risk, based on the activities performed by the insured, either professionally or privately. For example, an insurance company can decide not to cover certain occupations or hobbies or can request an additional premium for the added risk. During the claims management process, the insurer needs to understand the circumstances that surround the loss event resulting in a claim. Activities describe what the different parties were doing at the time of the loss event. The activities are validated against the conditions defined in the insurance agreement, with the result that the claim may not be paid if the conditions are not met.
Actuarial Statistics and Index	Actuarial statistics can be managed either internally or externally to the insurance company, and typically represent a table or algorithm to supply a particular value based on a set of parameters associated with the insurance agreement. Indexes are usually defined by an external body, but are used within the product structure to define how monetary amounts will be incremented or decremented over time.
Assessment and Condition	Used by the insurer to represent the results of an evaluation based on a subjective opinion or a scientific approach. Condition is the state of a place, a physical object or an activity occurrence existing at a given point in time.
Claim	Enables the insurer to represent requests for insurance benefits (such as money, services or goods), and to show how these requests for benefits are related to the different aspects of the insurance business. The definition of a claim in the context of the model involves the structure of a claim (the splitting of a claim into smaller claims parts), the responsibilities of a claim (what the operations to be performed by a claim are, and what information is to be included in a claim), and the relationships claims have with other areas in the organization.
Contact Point and Preferences	Represents addresses in a general sense (postal addresses, also include telephone numbers, e-mail addresses, and so on) as well as preferences of how customers want to be contacted (timing preferences, preferred name to use in communication, person by whom you prefer to be contacted, and so on).

Event	Many events (for example, life events, business events, loss events) are of interest to the insurer. A special case of event is a loss event that represents an event that caused a loss to an insured as covered by an insurance contract.
Financial Transaction	Allows an insurer to define accounts receivable (inbound payments due), accounts payable (outbound payments due), payments in and payments out, and to capture the relationships between these transactions. Outbound payments (for example, the payment of a claim to a customer) result from the accounts payable, whereas inbound payments (for example, a customer paying his premium) are created by recording of the physical money transaction as registered by a bank. Naturally, the concept of Financial Transaction is closely related to the Account, as all financial transactions must be posted to accounts via account entries.
Goal and Need	Represents the financial objectives or requirements of a customer or a market segment. It includes natural phenomenon protection, liability protection as well as financial planning. Financial planning covers the areas of retirement funding, education funding, dependent protection, purchase of durable goods, tax reduction, risk minimization, and so on.
Legal Action	Represents a process of having a court of law (or any recognized arbitration body) render judgment on a dispute between two parties or groups of parties. This includes criminal and civil cases. This can be caused by non-fulfillment of a delivery of financial liability, service or goods or by the breaking of an agreement between two or more parties. Disputes can be resolved by an independent arbitrator appointed by the insurance companies involved or by a court care. Disputes can arise for different reasons, but often are related to claims; for example, when the liability of a claim is disputed, when a subrogation is issued, when financial obligations are not met or when the cost of a service is disputed.
Money Provision	Identifies monetary amounts outside the context of billing and accounting that are likely to become payable to or by the insurer. Money Provision makes it possible to define how much money can be payable, by whom and to whom, and how the payments will be scheduled over time when the money becomes payable. It is therefore strongly related with other concepts in the model, such as Product and Agreement, Activity and Claim, and to the financial related areas, such as Financial Transaction and Account.
Party	Represents all participants in the Organization's environment that are of interest to the Organization. It covers information about people, organizations, divisions of organizations, government agencies, clubs, businesses and many other parties. Party also covers the involvement that parties can have in different business contexts, such as administering a contract and processing a claim.
Physical Object	Defines physical objects such as cars, houses, human bodies or any grouping of these from a risk and claims management perspective. All physical objects that can be covered by an insurance policy, excluded from insurance or involved in a claim, are represented in the model. Physical objects can also be used as collateral in financial services agreement, such as a house as part of a mortgage.
Place	Allows an insurer to represent places from a risk management perspective as well as from a territory management point of view. Place is a bounded area defined by nature, by an external authority (such as a government) or for an internal business purpose. Used to identify a location in space that is not a structured address; for example, country, city, continent, postal area or risk area. A place can also be used to define a logical place in a computer or telephone network.
Registration	Defines the existence of different types of official registrations and the role of each of these types of registration in the insurance business. Registration represents the formal recording by an authorized body of the granting of rights, privileges, favors or statuses.

<p>Specification, Product and Agreement</p>	<p>Allows an insurer to model financial services products and to define how financial services agreements are created and maintained based on the definition of a product. An agreement specification indicates the type of product or product component on which the policy or policy component is based. It maintains an inventory of products, coverages, and so on. An agreement represents a mutual understanding between two or more parties, each committing themselves to fulfill one or more obligations. An agreement can also represent an intermediary agreement, as in an agency contract or a brokerage contract or an employment agreement between the insurer and an employee.</p>
<p>Standard Text and Communication</p>	<p>Defines templates that can be used for mass-generating documents, as well as to look up important documents the insurer wants to keep track of in its operations. It is also used to keep track of communications, for example receiving or sending (or of the intention to send) a communication between two parties, such as a telephone call, a letter, a fax, an e-mail or a meeting.</p>



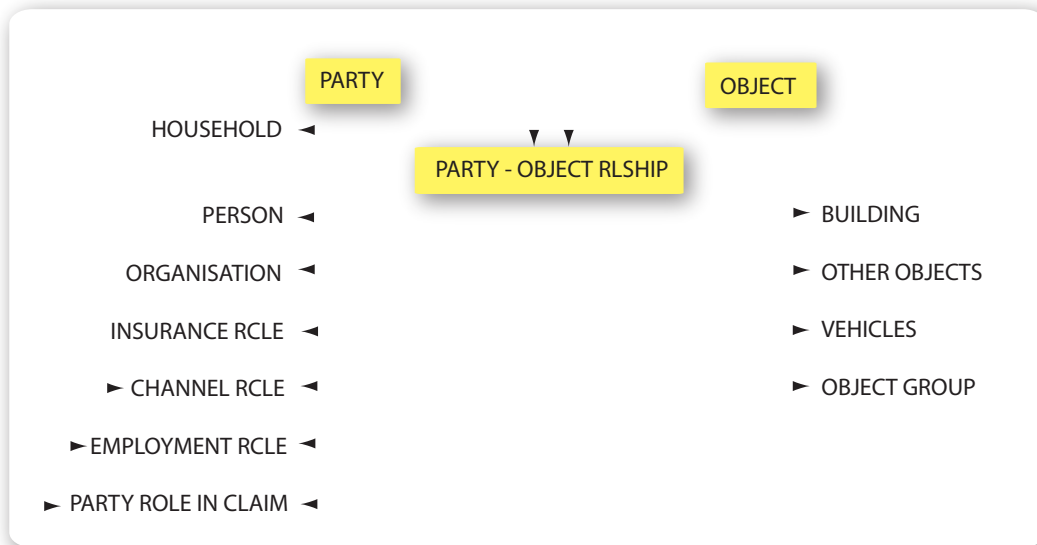
Enterprise Model



Once the data requirements are accounted for and validated in the Business Model that data must be put into a structure that is specifically appropriate for the Data Warehouse and data marts. In essence, this data is carefully organized in accordance with its intended informational use for easier consumption by the end user. The IIW Enterprise Model provides both the content and the structure to support the provision of this clean, rationalized and easily accessible data from a central information repository.

The Enterprise Model is a logical model consisting of the data structures typically needed by an insurer for a Data Warehouse. Once the logical model has been customized to meet the exact requirements of the insurer, the physical Data Warehouse database definition can be automatically generated through the use of a modeling CASE tool. A logical model is a representation of an insurer's data or information requirements, and is usually represented in an Entity Relationship Diagram (ERD) using business definitions. The data needs are represented without consideration for technology constraints associated with platforms, tools and software or how the application will be finally implemented. It is generic and flexible in design and facilitates an insurer's understanding of the true meaning of its data.

An example of an ERD from IIW:



The Enterprise Model features a flexible Atomic Data area (primary data storage area) as well as the typical summaries needed by most insurers to roll-up the detail data for analysis purposes. Normally, a portion of the Enterprise Model is generated in the initial project phase. Other areas can be generated as the insurer tackles more business areas over time.

This comprehensive data model is derived from IBM's highly successful Insurance Application Architecture (IAA) Business Model, from customer development partnerships and from leading data warehousing design practices. The Enterprise Model can be used as the basis for supporting a detailed analysis of the areas of most concern to insurers today:

- Relationship management
- Profitability and performance of customers, products and channels
- Maximization of wallet share
- Customer loyalty and retention
- Enterprise-wide risk management
- Improvement of cross-selling ratios
- Marketing campaign management
- House holding
- Consistent definition of customer and products across the organization
- Identification of purchasing and product usage patterns

Benefits

The Enterprise Model can be used as:

- The blueprint for a design of a central business Data Warehouse database structure. In this case the Enterprise Model assists in the creation of a flexible and extensible Data Warehouse-specific physical database.
- A logical reference point for the consolidation of data definitions and structures across data marts.
- A starter set for the design of a data mart. In this case the structure can be optimized for the performance of end-user delivery functions or specific application, such as CRM.
- A logical reference point for the consolidation of data definitions and structures across lines of business and in cases of mergers and acquisitions, customer loyalty and retention.

Model Components

The Enterprise Model contains current and historical, atomic and summarized, de-normalized corporate data. Its purpose is to deliver a unique, consolidated, consistent, aggregated at the most detailed level and corporate source of information for distribution to users with specific needs. The Enterprise Model contains:

- A de-normalized representation of the atomic information of interest for the Data Warehouse. This part is derived from the normalized atomic information represented in the Business Model and is used as the basis to derive the dimensional structures.
- A dimensional representation of the analysis areas, which includes conformed dimensions and conformed facts (where conformed means “defined consistently”). The Enterprise Model represents summarized and aggregated information. It uses dimensional modeling techniques to present data in a standard, predictable, intuitive framework that sustains high-performance physical access.
- Historical information.

Atomic Data

This is the component of the Data Warehouse that acts as the primary storage area for the data in the Data Warehouse. Typically this component is populated by data coming from the operational systems. The data structures in the Atomic Data are usually generalized and the bulk of the Enterprise Model would fit into this component.

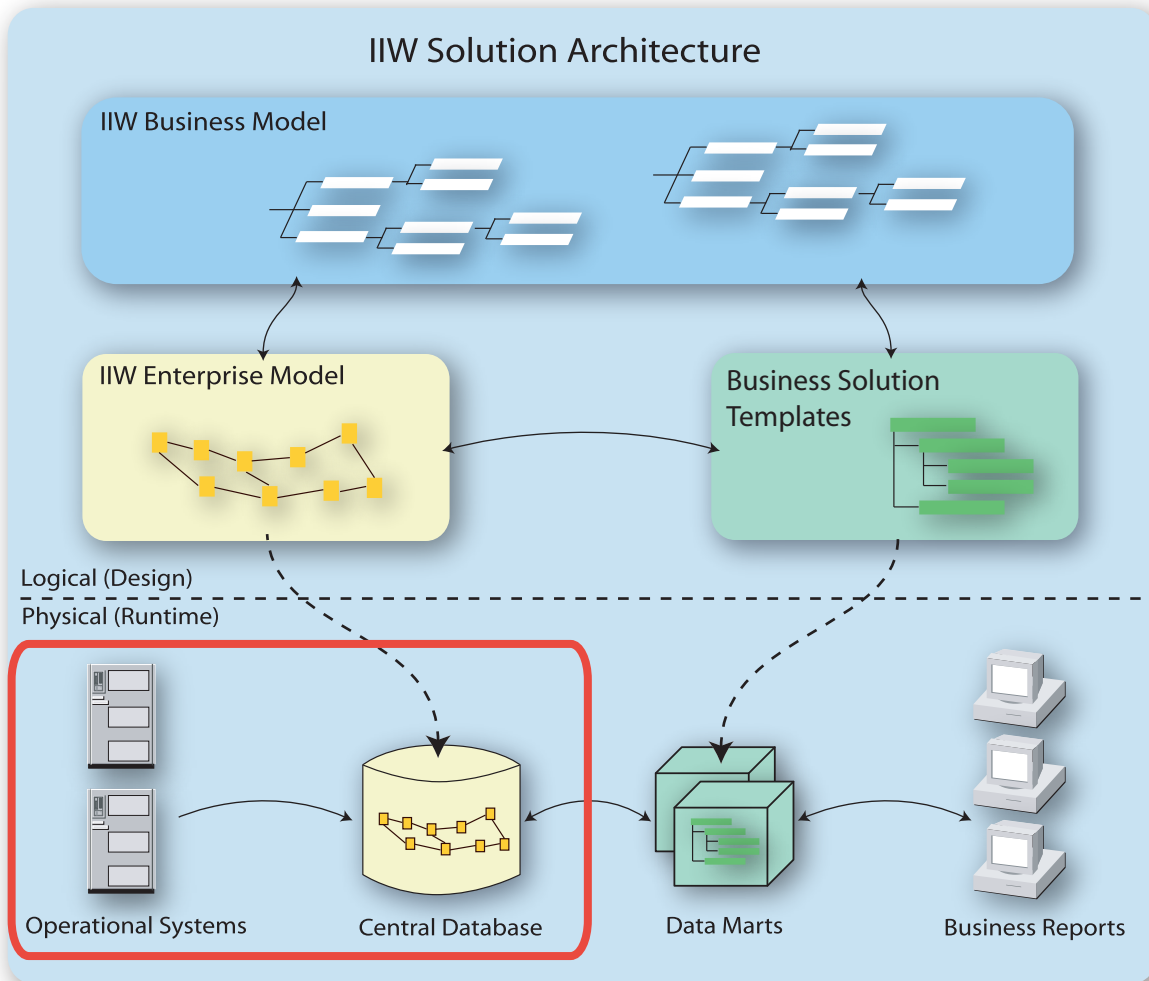
Analysis Area

This is the component of the Data Warehouse that prepares the data initially stored in the Systems of Record (source systems or operational data store) for subsequent distribution to the data marts. The entities in the Analysis Area contain the specific aggregations or summaries of data needed to be a specific data mart or part of a data mart. Analysis Areas include:

Advances analysis	Investment contracts analysis
Agent commission analysis	Market share analysis
Auto claim analysis	Loss events analysis
Auto claim payments analysis	New business volume analysis
Campaign communications analysis	Person citations analysis
Campaign contacts analysis	Person value analysis
Campaign installments analysis	Policyholder behavior analysis
Campaign profit analysis	Policy event tracking analysis
Campaign responses analysis	Policy life-cycle analysis
Campaign sales analysis	Policy payments analysis
Cash flow analysis	Policy persistency analysis
Claim and benefit analysis	Policy volume for vehicles analysis
Credit contracts analysis	Portfolio analysis
Credit withdrawals analysis	Reinvestment analysis
Cross selling analysis	Surrender analysis
Customer event analysis	Switching analysis
Customer persistency analysis	Underwriting analysis
Forecast analysis	Life, savings and investments claim analysis



Physical Model



Open Architecture

The IIW physical environment provides a physical Data Warehouse infrastructure. This infrastructure is tightly integrated with the logical environment incorporating both the IIW Business Model and IIW Enterprise Models.

IIW promotes an open architecture with each component adhering to industry standards. This allows the insurer to implement its Data Warehouse using existing or preferred commercially available tools for data cleansing, data movement, model management and end-user access.

It is possible to generate automatically the required data structures for a full Data Warehouse physical environment using the IIW Enterprise Model.

The main components of the physical environment are:

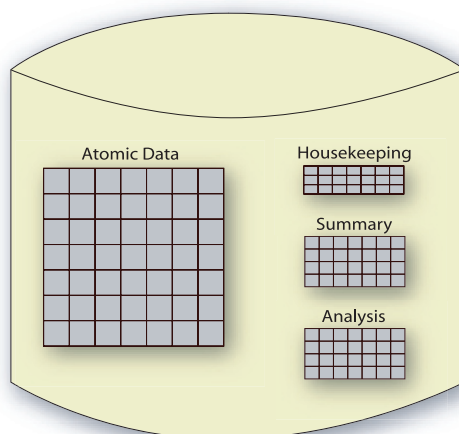
- IIW Database
- Business Reports
- Operational System Data

IIW Database

The IIW Database is forward engineered from the IIW Enterprise Model (described in the previous chapter) and is designed as a starter kit for insurers wanting to create an overall Data Warehouse solution. The IIW Database provides a blueprint for a Data Warehouse that first consolidates data from operational systems and then supplies data to a range of downstream data marts. Designed to support the needs of a central Data Warehouse, the IIW Database supplies the data for specific data marts.

Transformation rules are used for identifying the adjustments made to a logical data model (Enterprise Model) to transform the structure into a more physical design. For example, these rules can define when two or more entities should be collapsed into one table, when attributes can be replicated in multiple tables or when a subtype entity can be collapsed into its parent table.

The IIW Database is designed to provide a compromise between the need to provide a structure that is flexible and easily populated. The need for flexibility is driven by the requirement to support a range of different types of analytical and other future applications, without knowing the exact requirements of these applications. The ease of population is an objective driven by the need to ensure that maintenance of the Data Warehouse is as easy as possible. The IIW Database is divided into a number of areas:



Atomic Data Tables

The Atomic Data (or System of Record) is the area of the physical database where the data is stored in a flexible generalized format. Typically, all data supplied to the IIW Database as part of the normal updates from the operational systems are stored here.

Analysis and Summary Tables

The analysis tables are designed to aggregate the data for use by specific analytical applications. While the summary tables are designed to store commonly used aggregations, the analysis tables are effectively a staging area for specific business applications. The analysis tables can be necessary to collect the data into a format compatible with an analytical tool. The analysis tables are typically of use where the application needs highly summarized data, as is the case with end-user OLAP products.

An example of an analysis table is the Customer Persistency Analysis table. This table is designed to gather data from within the Data Warehouse for a specific set of OLAP reports and charts dealing with analyzing customer persistency. This table needs to pull data from other Data Warehouse tables such as Product, Measurement Period, Customer, Policy and Organization Unit.

Data from Operational Systems

Existing operational systems are the primary input to the Data Warehouse. The state and amount of this data varies widely from one insurer to another. However, in designing and building the IIW Database, a number of assumptions have been made:

- The data is supplied to the Data Warehouse on a periodic basis (daily, weekly, monthly)
- The data is primarily detailed
- The data has been through a cleaning process
- The data represents the delta or change captured since the last extraction

Sample Reports

BSTs are not just physical representations of the measures and dimensions to be included in a given report. BSTs can also be used to identify the data structures needed to support the reporting requirements, and to generate DDLs to construct facts and dimension tables from which the report can be generated.

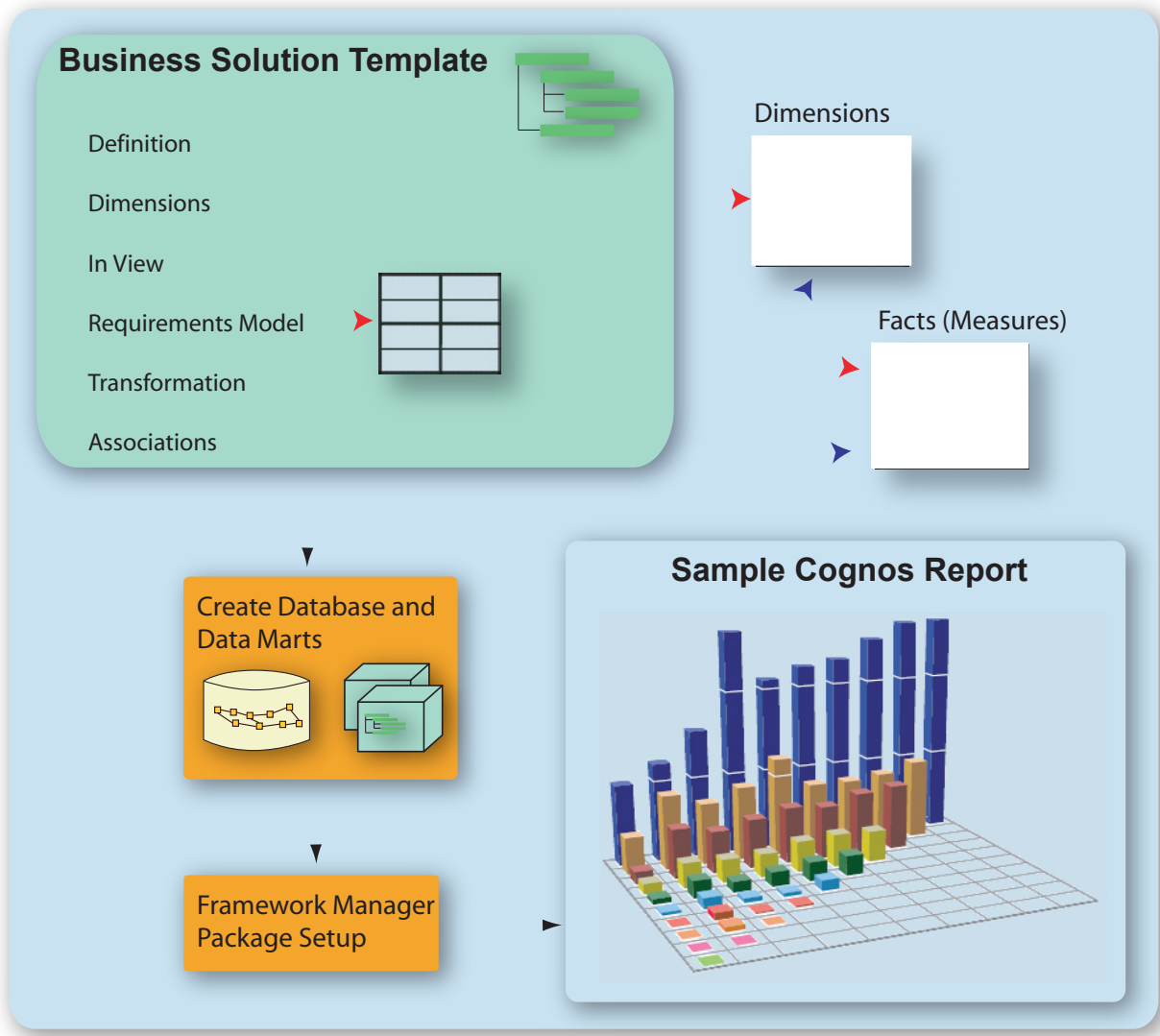
The latest release provides specific additional assistance for Solvency II reporting by including a selection of sample reports, pre-configured with IIW and modeled on the CP58 Business Solution Templates. These Cognos-based reports address 15 CP58 templates and one QIS5 reporting template:

- A1 Coversheet
- B2A SCR - Standard Formula or Partial Internal Models
- B3A Market Risk
- B3B Counterparty Default Risk
- B3C Life Underwriting Risk
- B3D Health Underwriting Risk
- B3F Operational Risk
- B4A MCR Calculation (Life and Non-life)
- B4Q MCR Calculation (Component)
- C1 Profit and Loss Account
- C2 Economic Balance Sheet
- F1 Life Revenue
- H3 Non-life Insurance Claims Information (including allocated claims management expenses)
- J2 Loss Profile
- J4 Share Reinsurer
- QIS5 MCR (Life and Non-life)

The DDL script for these selected CP58 reports is based on the IIW model content and the corresponding fact entities and measure tables. For your convenience, step-by-step instructions are available with the latest IIW installation to recreate these preconfigured reports that come complete with sample data and charts.

As the IIW sample reports illustrate, the Solvency II Business Solution Templates through a relatively simple process can support the creation of the dimensions and fact entities required for CP58 reports.

The following graphic illustrates the lineage from an IIW BST to the creation of a sample Cognos report:





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