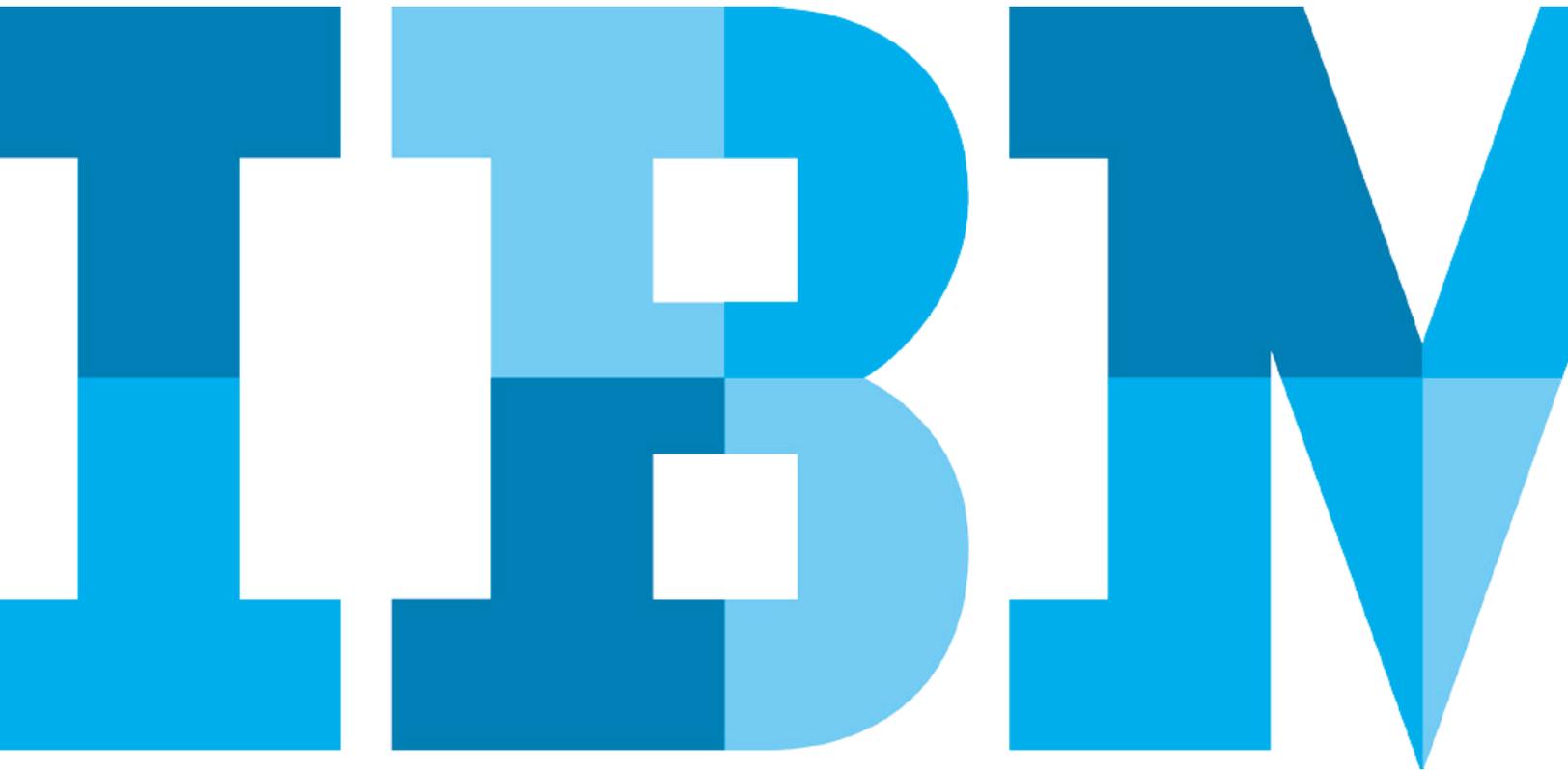


IBM Insurance Information Warehouse support in the business areas of Life Insurance and Workers' Compensation



Introduction

Over the past number of years insurance organizations have faced a multitude of disruptive forces across their personal and group divisions that have altered their business landscape. These encompass economic forces, such as globalization and the recent financial crisis, technological forces, and societal forces that include changing demographics. Their combined effect leaves many insurers struggling to grow or stay profitable in an era of increased competition and all the while having to adhere to ever more prescriptive capital and regulatory constraints.

This paper discusses how enhancements made in the area of life insurance and workers' compensation in IBM Insurance Information Warehouse (IIW) help companies address these challenges. While these two areas support different lines of business, products and customer bases, they are part of the broader IBM offering that includes data warehouse support for Solvency, Fraud, Customer Insight, Catastrophe Modeling, Investment Management and big data.

This paper also provides a perspective on how business analytics is continuing to guide the strategic direction of insurance organizations and their need to evolve predictive models to better manage risk exposure, price risk and provide critical input to their product innovation. The adoption of business analytics will allow them to better plan for customers of the future and the interaction channels including social media those customers will utilize. In addition, they will need to look at offering broader insurance services that look beyond simple coverage products and invest in flexible structures that allow them to anticipate market and regulatory trends.

There are other strategic considerations that also need to be addressed in addition to specifics around how insurers manage their life insurance and workers' compensation business. The World Economic Forum¹ highlights the need for business models to evolve and transform to survive in a business environment where profits from core business activities will significantly reduce in the years ahead, competition will increase, and risk aversion among its traditional customer base become the norm. Part of this business model transformation focuses on new investment assumptions, including around assets and investment management. However, any strategy needs to be cognizant of, and correctly manage, those areas of the business that are core in terms of contributing to profitability.

IIW acts as a blueprint by defining the structures necessary to build an effective data warehouse, and provides insurance managers with critical prebuilt reporting templates that offer a wide and deep view of their business through key performance indicators and other measures. In addition, it provides a flexible, scalable solution enabling the consolidation and integration of data from heterogeneous systems.

It provides a unified view of critical business data and supports the delivery of accurate, consistent and timely information for life insurance and workers' compensation business reporting and analytics. Furthermore, it helps insurers better understand their exposures and manage the fluctuation in the number and severity of claims associated with these two critical business areas. It allows them to assess their exposure to risk, and also to be informed by a better understanding of all factors leading to claims including, for example, the potential for fraudulent claims as in the case of workers' compensation.

Understanding Insurance Industry Data Challenges

There are clear imperatives for embedding an analytics strategy that delivers sustained long-term competitive advantage within insurance companies. Primarily it is required to help manage the proliferation of data and drive informed decisions and optimize business outcomes. IBM studies have ascertained that more than one-third of business leaders say they have significant challenges extracting relevant information and using it to quantify risk and predict possible outcomes. Figure 1² highlights the challenge for insurance organizations in terms of defining best in class data governance strategies that manage enterprise information and ensure that this information is trustworthy and relevant across a range of business areas.

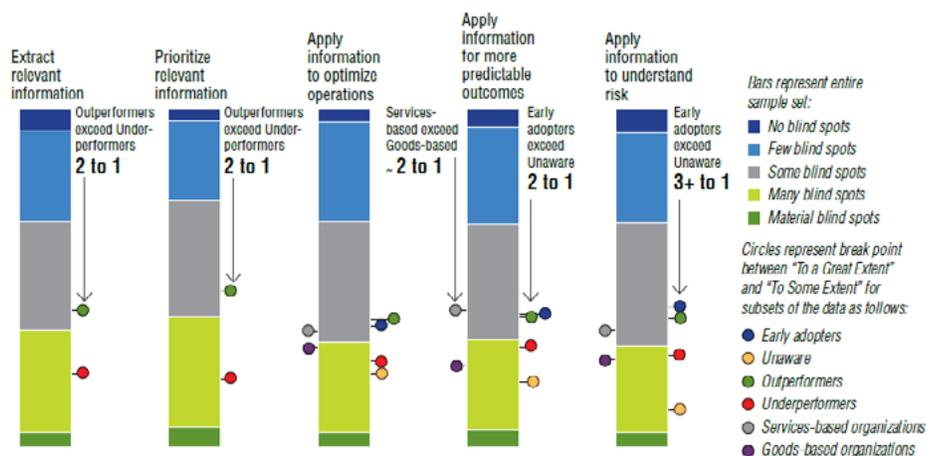
The IBM study also found that organizations that outperform their competitive peers seek to innovate and deeply change their industries based on their ever-growing insights and ability to see the future more clearly. By embracing advanced analytics enterprises can optimize performance in the areas of intelligent profitable growth, cost take out and efficiency, and proactive risk management.

Ultimately, this provides the basis for growing customers, improving relationships, identifying new markets and developing new products and services. In addition, it recognizes and supports organizations in the allocation and deployment of resources and capital to create more efficiency, align with regulatory standards such as Solvency II, and manage costs in a way that aligns to their business strategies and objectives.

New analytics capabilities will ultimately allow organizations to hone their strategies and provide the best means of achieving a smarter, better informed and more integrated organization given the information explosion organizations are now faced with managing.

We will now look at some of the key business challenges that need to be addressed in the workers' compensation and life insurance lines of business.

To what extent do you feel that your organization is operating with major "blind spots" – gaps or lack of trust in information – in regard to the following areas?



Notes: Early adopters have programs well underway to take advantage of new analytics for business advantage and Unaware declare having "not thought about the opportunity"; Out- and underperformance is relative to peers; Services-based industries: financial, professional services, entertainment, media, publishing, telecommunication, education, government, transportation. Goods-based industries: technology, manufacturing, energy, pharmaceuticals, automotive, consumer goods, retail, agriculture, real estate, chemicals and aerospace/defense.

Figure 1. Study outlining how early adopters are achieving above average business advantage from adoption of analytics

Workers' Compensation in Context

Workers' compensation represents a form of group insurance product provided by Property & Casualty (P&C) insurers. It provides benefits, such as medical care and compensation for lost income, to workers who die, become injured or disabled in the course of their employment. It has over recent years been one of the most challenging areas of business from the perspective of an insurance company with pressure to achieve profitability in the face of increased legislative and economic challenges. One example of the economic challenges insurance companies face as part of implementing their business strategy has been around the complexity involved in pricing for risk exposure in a climate of rapidly increasing health care costs.

With the recent economic revival, the tide has turned for the workers' compensation business. The imperative for private insurers to act is clear when one considers that the National Academy of Social Insurance (NASI)³ reports that the workers' compensation policies now cover 127.9 million workers in the US. Insurance companies need to proactively help employers manage their \$83.2 billion cost base, which is increasing year on year. In addition, the NASI reports that workers' compensation benefits (cash benefits paid to injured workers and medical payments for their healthcare in the US) amounted to a staggering \$61.9 billion in 2012. Medical payments increased by 0.9 percent, to \$30.8 billion, and cash benefits increased by 1.8 percent, to \$31.0 billion. Net premiums are also rising faster for private insurance carriers in this area of their group insurance business, as opposed to gains being recorded across other areas of the P&C market.

There are a number of considerations that insurance companies need to address as part of their analytics strategy in order to benefit from this upturn. They must grapple with issues such as an increasingly mobile workforce, increased threat of terrorism, and the implications of new legislative areas, such as the Affordable Care Act. All of these require analytics that help identify the implications from a coverage, premium, cost and claims exposure analysis perspective across a diverse range of industry sectors.

A further challenge is that workers' compensation is primarily state mandated in the US, with coverage provided from either state funds or private insurance carriers. As a result, there is no single cohesive standard for governing rules around benefits, coverage or premium computation. Insurance companies need to systematically analyze their data in order to understand and manage differentials across various states, sectors and the employees within those sectors.

Predictive analytics also assists carriers in identifying accounts that are performing above and below average and trends related to them. In addition, analytics provides the means to assess potential fraudulent activity such as the inaccurate reporting of payroll, misclassification of employees, including incorrectly specifying the experience of those employees..

The evidence suggests that the workers' compensation industry is becoming more analytically driven with a view to further improving its profitability. They now require a comprehensive data strategy that is in part provided by IHW that supports an accurate exposure, claims and premium strategy, in addition to, actively targeting fraudulent activity.

Life Insurance in Context

Traditionally, life insurance was defined as providing protection against the loss of income that would result if the insured passed away. We take a broader definition and include other income management strategies also, such as, annuities and pensions that address broader financial lifetime strategies.

Irrespective of the definitions applied, this traditional business area has been under threat and insurance organizations must now address a marketplace where the number of US policies has effectively base lined over the past 40 years despite the population doubling. Similar to workers' compensation, this line of business must cope with a challenging macroeconomic and regulatory environment marked by high volatility, low interest rates, and negligible economic growth. The reality is that life insurers have ceded ground to other financial services organizations, such as, banks, asset managers, and brokerage firms and they need a holistic data management strategy to address these imbalances. Part of the solution includes the use of business analytics in a manner that looks to build more flexibility into product design and pricing that allows them to better understand and share long term risk. All of this needs to be done while simultaneously establishing robust metrics to manage capital, govern risk, and adhere to regulatory directives such as Solvency II.

Furthermore, business analytics need to be employed in order to provide a better understanding of the socio-economic rationale for changing behavior over the past 40 years. Part of this change can be explained by employers no longer offering these types of life insurance benefit policies as part of an overall employment package. The onus has shifted to individuals having to manage their long-term financial planning needs. As a result, insurance companies need to employ smarter methods in order to better target customers across a range of channels. For example, there are business drivers in the life insurance marketplace to now deliver less complex products with shorter policy duration that address not just the benefits related to death coverage but also help policyholders change their behaviors to help promote a better quality of life and extend the insured lifespan of a policy holder. In order to successfully achieve this objective,

insurance companies need to become more adept at collecting and interpreting behavioral data. They also need to address the ageing profile of customers with different needs in developed markets and newly developing markets, and define appropriate risk pricing strategies for those customers.

In order to compete with banks, asset manager and brokerage firms, the product strategy of life insurers has moved towards riskier investment strategies over the past 20 years. While these resulted in enhanced profits during periods of economic stability and growth, profits have largely been eroded during the recent economic downturn. Using the correct analytics strategies can once again help life insurers to maximize returns based on a return to more traditional risk pooling products that allow them to target an aging population not prepared for retirement.

A new approach to understanding the power of analytics can also allow insurers to target improvements in cost control and identify the best and most cost effective sales channels for targeting their customer base. In addition, it allows them to identify leads and marketing opportunities and the means for adapting their existing services to the market place.

In conclusion, all of the above needs to happen in an environment where insurers might have to deal with a multitude of legacy systems due to the large number of mergers that have occurred over the past number of years and all of the challenges with integrating data from these disparate systems, and then attempting to extract meaningful analytics.

IBM Insurance Information Warehouse Overview & Benefits

IIW supports insurance organizations in addressing data challenges in both life insurance and workers' compensation and helps shape their analytics strategies. It helps them successfully manage issues such as those outlined previously and helps anticipate shifts in customer needs and expectations, and manage the resulting changes in competitive dynamics in these business areas. IIW is the result of tens of thousands of hours of development effort and deep subject matter expertise and helps implement an enterprise data warehouse on time and on budget. It provides insurance managers with critical predefined requirements definitions that offer a view of their business through key performance indicators and other measures.

IIW reaches far beyond simple data gathering. It offers a significant competitive advantage through the ability to continuously process data and transform it into information-led business initiatives. By unlocking information contained in individual applications and repositories from various vendors, and making it readily available to the people and processes that need it, it can help get insurance organizations closer to a best-practice information management infrastructure. It specifically helps to address some of the following data challenges:

Solve complex problems

- Turn operational data into strategic insight with end-to-end integration of the most valuable data
- Build a comprehensive insurance analytics platform, and leverage the investment for years to come
- Track improvements and trends in cost and quality with historical views and traceability
- Provide data in a way that enables detailed analysis by business analytics applications
- Leverage existing investments by incorporating complex data models into the cross-functional view

Turn insights into action

- Integrate insurance and financial data to support emerging care delivery models and present reliable and actionable insights to your executive office
- Combine resource and insurance information to identify inefficiencies that might inflate the cost of product delivery
- Identify actionable opportunities for both claims processing and operational improvement by analyzing data from different sources

Be responsive to the changing needs of business

- Align business and technical resources with a common target and vocabulary to accelerate the progress of initiatives
- Increase agility and decrease time to deliver new reports to decision makers with a design optimized for analytics
- Adapt to evolving regulatory requirements to maximize reimbursements and compliance
- Expand analytical dashboards and reports to include emerging areas without re-implementing an entire platform

Demonstrating the Value of IBM Insurance Information Warehouse

Insurance organizations might already have the core of the infrastructure needed for life insurance and workers' compensation support, such as disparate data marts, data extracts, risk calculation engines that feed their operational processes, and reporting for the scenarios outlined above. However, organizations need to enforce a new discipline of a common and shared understanding of key business drivers that feed decisions at all levels, across all lines of business. IIW places the emphasis on data governance, embedding a methodology and the application of consistent standards and definitions.

IIW provides a framework for achieving rapid and successful management of a diverse range of analytical capabilities in the life insurance and workers' compensation space. It provides a glossary of requirements, terms, and concepts that can be clearly understood and communicated helping to identify and improve data sources, accelerate project scoping, requirements gathering and the facilitation of appropriate reporting in these business areas. It acts as a blueprint by defining the structures necessary to build an effective data warehouse, and provides insurance managers with critical prebuilt reporting templates that offer a wide and deep view of their business through key performance indicators (KPIs) and other measures.

As outlined in Figure 2, IIW is a set of models that enables insurance organizations to build and deliver a business-oriented, enterprise-class data warehouse or data repository. It comprises a number of components each of which will be explored in this section, with practical business examples provided.

These components provide comprehensive data structures that help insurance organizations build an enterprise data warehouse. If required, it facilitates the development of bespoke data repositories designed to solve a particular need. It supports the principle of "one version of the truth", consolidating data to a single data source for external compliance reporting, internal risk management and strategic capital allocation. A key tenet of this approach relies on the definition of your data requirements using a common set of business terms. These business terms support the underlying IT assets such as data models. This provides consistent terminology and serves as an entry point for the user to understand and customize the information that is supported for related IT assets.

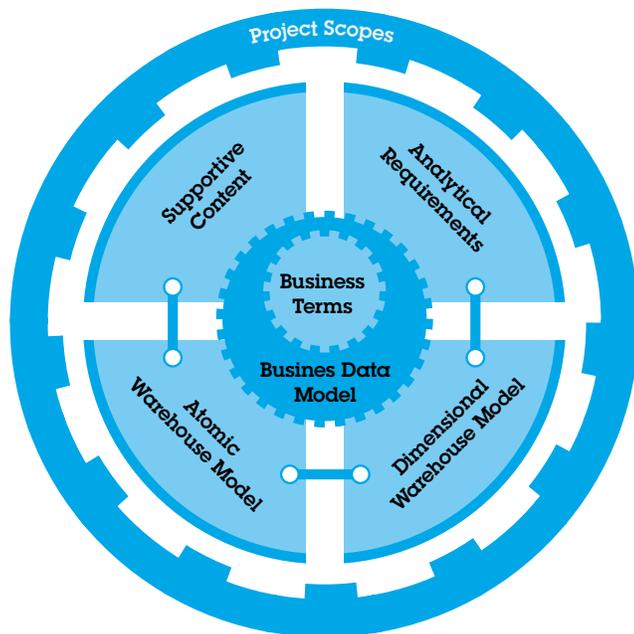


Figure 2. IBM Insurance Information Warehouse components

Project Views

Project Views are business-subject-area views that span across all IIW components with the following functions:

- Provide a clear understanding of the data coverage required for a specific business requirement, such as life insurance or workers' compensation
- Include pointers to life insurance or workers' compensation data, focusing on model constructs that contribute to solving the immediate business issue
- Identify the relevant Analytical Requirements, measures, dimensions and atomic subject areas needed to address particular reporting requirements
- You can extend the scope of each Project View to include your own customizations and extensions.

There are distinct project views available that provide a centralized view, and a clear understanding, of the data coverage required to support both life insurance and worker's compensation project deliverables in IIW. These project views provide the means to quickly scope the key data constructs that solve project challenges in these business areas and accelerate solution development.

Business Examples

IIW now supports comprehensive overview and scenario based business examples for life insurance and workers' compensation. These document specific business scenarios and relate how diverse groups of business information are used by the enterprise to fully articulate the requirements for a piece of analysis. This collateral helps organizations understand the totality of data that is required to fulfil a business reporting requirement. They have two forms of representation:

- Overview diagrams provide an explanation of where in the model the coverage for life insurance and workers' compensation data can be found using IIW business terminology.
- Entity/Relationship scenario diagrams provide an initial scoped model diagram including entities and relationships to provide an initial acceleration point for your data modeling and risk exposure data warehouse project, which can be customized as needed and from which a physical model can be generated and deployed.

There are now specific business scenarios to cover the following business areas:

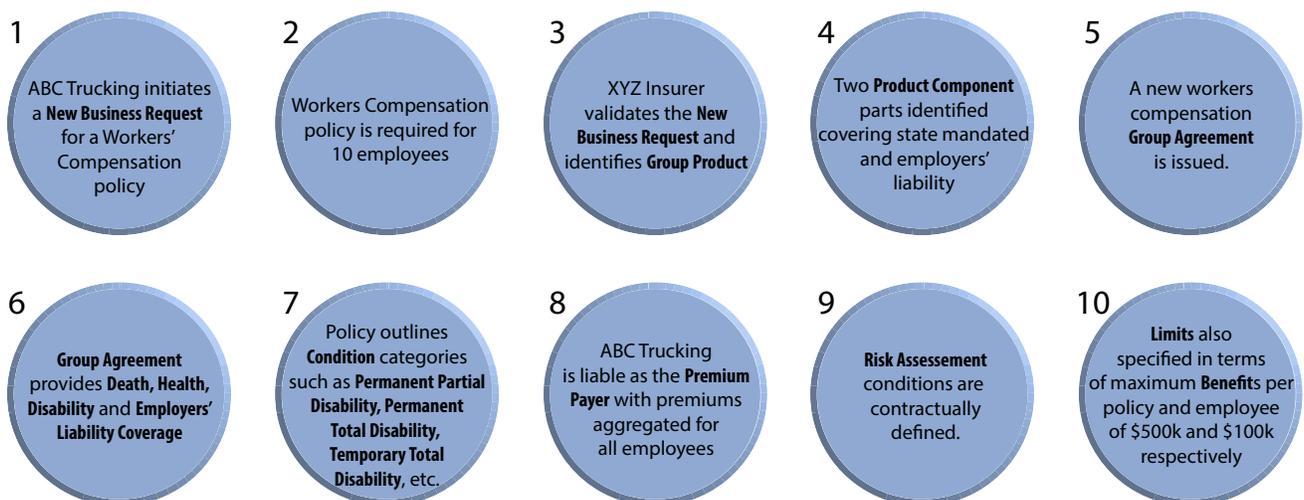


Figure 3. Workers' compensation business scenario example

Workers' Compensation: Workers' Compensation Group Agreement, Coverage Component and Premium Analysis

This business example reviews the key data interactions for managing a workers' compensation group agreement including analysis of the New business request, Group product, Group agreement, Coverage component, Premium payer, Assessment, Insurable peril category, Limit, Premium, Charge, Benefits and Commission loading

Life: Life Insurance Individual Rider Coverage Component, Premium and Benefit Analysis

This business example reviews the key data interactions for managing an individual life insurance rider request including analysis of the Contractual content change request, Individual agreement, Coverage component, Insurable peril category, Limit, Premium, Charge, Benefits and Commission loading

Figure 3 outlines the workers' compensation business scenario in order to showcase the power of IIW in terms of utilizing enhanced analytics so that business users can make well-informed, fact-based decisions to support their organizations' tactical and strategic goals. These business examples combine group and individual policy data, exposure data (such as claims, premium), and risk assessment data together with new data sources for workers' compensation and the loading of this into the data warehouse to improve and consolidate insight and analytics. IIW includes data coverage to feed aspects of workers' compensation related risk assessments in terms of inputs to and outputs from these models. Using IIW as the basis of your risk exposure data warehouse allows for this consolidation of insight into one data store to support the different views of risk exposures needed which might inform against possible fraudulent activities.

The overview diagrams show how we translate the workers compensation business example into high level data representations in the form of an overview diagram which in turn are based on logical data groupings, such as, Request, Specification and Product, Agreement, Party, Category and Money provision. The overview diagram is eventually translated into detailed entity/relationship scenario diagrams and are available in InfoSphere Data Architect.

Business Terms

The Business Terms glossary enables non-technical business experts to describe and define, in their own words, the concepts they use every day. Clearly defined business terms help standardization and communication within an organization. Mappings to the data models make it possible to create a common, enterprise-wide picture of the data requirements and to transform these requirements into IT data structures. The glossary is a comprehensive list of terms pertaining to insurance, financial services and general business that includes definitions written in plain business language, detailed data elements that specify what each business term means for the insurance organization and terms that might be related to one another through relationships.

The business examples outlined in the previous section are directly developed based on the standardized glossary delivered as part of IIW. It encourages business experts to describe and define solutions, in their own words, the concepts they use every day. As outlined earlier, there are now specific project scopes to accelerate solution development in these business areas that contain the following metrics:

Workers' Compensation

In excess of 35 business terms specific to workers compensation and covering areas, such as, Group agreement, Coverage component (including Death, Health, Disability and Employers' liability), Medical condition, Disability assessment, Benefit, and Premium etc have been added as part of the recent content extensions.

Life, Annuity and Pension In excess of 200 business terms covering areas such as Individual Investment policy (including annuity and pension), Group agreement, Individual life insurance policy, Permanent life insurance (including Universal, Variable and Whole life etc), Term life insurance (including Annual renewable, Convertible, Mortgage term etc), Rider, Benefit, Surrender value etc

Life Insurance Sample Glossary

Individual Life Insurance Policy: An insurance policy covering the insured in the event of their death and providing a lump sum payment, known as a death benefit, to a nominated beneficiary. Life insurance policies are typically represented as either term life insurance which provides coverage for a predefined period or permanent life insurance which provides lifetime coverage.

Additional Individual life insurance policy term support also available, for example, in the following areas:

- Permanent life insurance (Equity linked, Universal life, Variable universal life, Whole life, Graded premium whole life, Modified premium whole life etc)
- Term life insurance (Annual renewable term, Convertible term, Mortgage term, Decreasing term, Level term etc.)

Rider: represents an attachment to, or provision of, a life insurance policy that expands or modifies the benefits to be derived or excludes certain conditions of coverage. Typically, this is purchased separately from the base policy and usually impacts on the underlying premiums charged. A rider corresponds to an increase or a decrease in the risk covered and ultimately assist policyholders create insurance products that meet their specific current or future needs.

Additional Rider term support also available, for example, in the following areas:

- Accelerated death benefit rider, Accidental death rider, Child term rider, Critical illness rider, Family income benefit rider, Guaranteed insurance rider, Term conversion rider etc.

Workers' Compensation Sample Glossary

Disability assessment: An assessment by a medical practitioner in order to classify an employee with a disability of type permanent total, permanent partial, temporary total or temporary partial.

Additional Disability assessment term support also available, for example, in the following areas:

- Permanent partial disability, Permanent total disability, Temporary partial disability, Temporary total disability

These terms are now also available in InfoSphere Information Governance catalog (IGC).

Analytical Requirements

IIW contains an extensive list of Analytical Requirements, reflecting the most common queries and analyses for business performance measurement and reporting, while supporting other analytical functions such as ad hoc reporting, data mining and decision support.

Analytical Requirements enable rapid scoping and prototyping of data marts, which provide a subject-specific analytical layer in a data warehouse solution. Analysts and business users use Analytical Requirements to gather the reporting and analysis requirements of their organization quickly.

Each Analytical Requirement can be divided into measures, which are numerical facts that convey quantitative information of importance to the organization, and dimensions that categorize measures. These measures and dimensions are mapped back to the data warehouse, so that the scoping of the reporting and analysis requirements automatically selects the most appropriate data warehouse entities and attributes to support those requirements. The analytics development team can use these Analytical Requirements to create designs for specific data marts or dimensional solutions that can serve as the source for a range of reports and charts. Data Definition Language (DDL) for the required physical database implementation can be generated to accelerate reporting development. IIW supports the automatic generation of DDL into IBM PureData System for Analytics (Netezza).

IHW supports a number of designs for data marts in support of life insurance and workers' compensation reporting. The designs document high-level groups of business information and are used by the enterprise to fully articulate the requirements for a piece of analysis using their own business terminology. Examples of these analytical requirements are as follows:

Workers' Compensation

- Workers' Compensation Claim Analysis
- Workers' Compensation Premium and Coverage Analysis

Life and Annuity - General

- Life insurance and annuity claims analysis
- Life insurance and annuity premium and new business
- Life insurance exposure analysis
- Life insurance fees and commission
- Life insurance needs approach analysis
- Life insurance unit linked fund performance analysis

Life - Actuarial Analysis

- Coverage component valuation analysis
- Policy valuation analysis

Life - Fraud

- Fraud life red flags indicator analysis

Life - Solvency II QRT Life Technical Provisions

- Life technical provisions analysis
- Life best estimate geographic analysis
- Future cash flows best estimate life analysis
- Life obligations analysis
- Variable rate annuities analysis
- Annuities and life like liabilities analysis

Life - Solvency II QRT Group

- Group lapses life business analysis

Life - Solvency II QRT Solvency Capital Requirements (SCR)

Life Risk

- Life underwriting risk analysis
- QIS5 CoC RM helper simplification life UW risk

Life - Solvency II QIS5 Cost of Capital Risk Margin

- QIS5 Risk margin and TP - life business

Life - Solvency II QIS5 Current Situation

- QIS5 Detailed TP - Life Business

Life - Solvency II QIS5 Insurance Obligations

- QIS5 Best Estimate of TP - Life business
- QIS5 Allocation of TP - Life
- QIS5 Risk margin and TP - life business

Life - Solvency II QIS5 Minimum Capital Requirements - Standard Formula (MCR)

- QIS5 MCR - Life MCRlife

Life - Solvency II QIS5 Premiums

- QIS5 Premiums for life business

Life - Solvency II QIS5 Solvency Capital Requirements - Standard Formula (SCR)

- QIS5 QIS5 SCR - Life Underwriting Risk

Similar to the business terms, these Analytical Requirements are now available in IBM InfoSphere Information Governance Catalog (IGC).

The Solvency II Analytical Requirements listed above highlight the specific parts relevant to life insurance. A more comprehensive listing, and a whitepaper that discusses Solvency II in detail, is available on request.

Business Data Model

The Business Data Model is a logical model that represents the essential entities and relationships of the insurance industry. It provides a business view that excludes technical implementation considerations such as details related to any specific database.

The Business Data Model is the first point at which the various business requirements are brought together and modeled in an entity-relationship format. It enables organizations to perform the initial modeling of their business requirements and helps the organization understand the various constraints, relationships and structures that can be implied in their business requirements. This is the essential model of the business, providing the overall business context and a common basis for the downstream models that can be used in the actual deployment of the physical data warehouse.

The information reflected in the data model is independent of organizational structure and has been validated by multiple sources within the industry.

Specifically,

- Life insurance consists of over 160 elements defined in the project scope
- Workers' compensation consists of over 120 elements defined in the project scope

For example the 'Coverage component' entity in the Business Data Model details the circumstances under which a benefit will be paid thereby providing protection against a particular risk. In life insurance, coverage is provided in the form of Death and Rider coverage. In workers' compensation, coverage is provided in the form of Death, Health, Disability and Employers liability coverage.

The Business Data Model is available in InfoSphere Data Architect.

Atomic Warehouse Model

The Atomic Warehouse Model is a logical, specialized model derived from the Business Data Model. It is optimized as a data repository that can hold long-term history, usually across the entire enterprise. The Atomic Warehouse Model provides the data design support needed to create a uniform model of the enterprise-level business requirements defined by the Business Data Model into specific, flexible and efficient structures dedicated to the long-term storage of historical facts.

The Atomic Warehouse 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. A portion of the Atomic Warehouse Model is generated in the initial project phase. Other areas can be generated as the insurer covers more business areas over time. The Atomic Warehouse Models contains data structures needed by an insurance organization to support a wide variety of business.

Specifically, in relation to life insurance and workers' compensation, there is the following support:

- Life insurance - Consists of over 60 elements defined in the project scope
- Workers' compensation – Consists of with 50 elements defined in the project scope

The design level representations in the Business Data Model are further rationalized in the Atomic Warehouse Model resulting in a more efficient and flexible structure where core concepts and their subtypes as defined in the Business Data Model are rolled up into core entities.

The Atomic Warehouse Model is available in InfoSphere Data Architect and can be readily deployed on numerous database options including IBM PureData for Analytics (Netezza) and DB2.

Dimensional Warehouse Model

The Dimensional Warehouse Model is a logical model derived from the Business Data Model and the Analytical Requirements and provides an optimized data repository for supporting analytical queries. The Dimensional Warehouse Model provides the data design support needed to transform the enterprise-level business requirements into business -specific and efficient structures dedicated to the design of dimensional data repository. This repository holds sufficient and complete data to meet the needs of business user analysis. Dimensional models are more easily understood by business users. They are optimized for data querying rather than for transactional speed, and their structure makes it is easier to extend them to support new data requirements. New queries can be created without having to redesign the data structures, while old queries can still operate without change.

In relation to life insurance and workers' compensation, there are reporting requirements supported through dimensional model facts and dimensions that can ultimately be physicalized as data marts. Specifically there is report coverage for life insurance claims, premium, exposure, new business, fees and needs analysis. Similarly there is workers compensation support in the form of claims, premiums and coverage analysis. The measures in the Analytical Requirement are supported and defined in the Fact table. The Fact Entity is the core entity of a dimensional data structure with all, or a subset, of the measures and dimensions that are held in a Fact Entity may be distributed to one or more downstream data marts.

Conclusion

IBM Insurance Information Warehouse can help insurers address business and technical challenges for diverse lines of business, such as life insurance and workers' compensation. It primarily provides a mechanism for strategic data management, helps insurers define their data analytics strategies, and ultimately allows them to better plan for customers of the future, channels of interactions, and offer broader insurance products and services to anticipate market and regulatory trends. It also provides the optimum approach for better management of risk exposure, risk pricing and the provision of critical input to their product innovation. These are key areas of concern that need to be tackled if insurers are to grow and stay profitable in an era of increased competition and all the while having to adhere to ever more prescriptive capital and regulatory constraints.



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¹The Future of the Global Financial System, Navigating the Challenges ahead.”, World Economic Forum, 2010

²Winning strategies for insurers – IBM Institute for Business Value, July 2014

³Workers’ compensation: Benefits, Coverage and Costs 2012 – National Academy of Social Insurance, August 2014



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