Insurance companies getting in control of data

Solvency II data governance and data quality

ERNST & YOUNG
Quality In Everything We Do
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Introduction

Data is becoming more and more important within the financial sector. De Nederlandsche Bank (DNB) recently published their focus topics for 2013, which includes data quality with regards to reporting and provisions, IT, and continuity. New regulations lead to stringent data requirements, while customers demand for tailor made advice. In the meantime, the volume of data has increased significantly, data has become available in a greater variety of sources than before and the velocity with which new data is created rises exponentially. These developments lead to a demand for appropriate data governance and quality frameworks.

A key development driving the importance of data quality is Solvency II. The goal of this EU-wide insurance legislation is to facilitate the development of a Single Market in insurance services, while at the same time securing an adequate level of policy holder protection. Within the Solvency II directive, there are several requirements regarding data quality and governance, relevant for both internal model and standard formula. Appropriateness, completeness and accuracy of data used in technical provision calculations and the Solvency Capital Requirement (SCR) model need to be ensured. Data used for pillar 3 reporting needs to be accurate and timely and processes need to be arranged to demonstrate satisfactory data quality. Furthermore, an effective system of governance and an internal control system need to be in place.

A number of insurance companies have taken the first steps to satisfy these requirements. However, Ernst & Young's 2012 European Solvency II survey shows that integrating data and IT systems is still a significant challenge. The Financial Services Authority (FSA) states that organizations are still struggling with efficient classification and identification of data on the one hand, and with a consistent interpretation and application of a data policy across the organization on the other hand. DNB stresses that audit procedures performed related to data quality in conjunction with the financial statement audit do not necessarily satisfy Solvency II requirements.

Main Solvency II and data challenges

Recent investigations among insurers reveal the following challenges regarding Solvency II relevant data:

- Gap between Solvency II data quality requirements and financial statement audit activities
- No policies, procedures and roles and responsibilities relating to data management
- Inconsistent data models, data structures and data definitions
- End-to-end data architecture, including key data flows, systems and control points, is extremely complex
- Data quality of key data elements is poor
- No “single version of the truth” or “golden source” for key data sets
- Current data quality activities are manual and reliant on end user computing tools
- Data needed for reporting is not available

This brochure shows you the specific requirements, challenges and solutions needed to develop or assess an appropriate data quality and governance framework. It is now time to get in control of your data, and start to deploy an organization wide data governance and data quality strategy.
Data quality requirements

According to the Solvency II directive, issued by the European Insurance and Occupational Pensions Authority (EIOPA), undertakings should have an effective system of governance and internal control system in place. Data used in the calculation of the technical provisions and the internal model should be appropriate, complete and accurate. Furthermore, Solvency II reporting requirements demand data to be accurate and timely. Policies and procedures need to be in place in order to demonstrate sufficient data quality and to enable comparability between subsequent years.

The table below shows the relevant articles in the Solvency II directive and the corresponding level 2 implementing measures. The measures state the need to embed a data governance framework and an internal control system.

Additionally, a system for data quality management is required, in order to be able to define data requirements, monitor data quality, and remediate deficiencies.

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### Solvency II directive

- **Article 82 and Article 121**
  - Insurance and reinsurance undertakings have internal processes and procedures in place to ensure the appropriateness, completeness and accuracy of the data used in the calculation of the technical provisions. Data used for the internal model shall be accurate, complete and appropriate.

- **Article 41 and Article 46**
  - An effective system of governance which provides for sound and prudent management of the business
  - An effective internal control system

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### Level 2 implementing measures

- **Article 14 TP3, Article 220 TSIM10 and Article 15 TP 4**
  - Directory of all data used in the calculation of the technical provisions and in the internal model, specifying the source, characteristics and usage
  - Written data policy
  - Ensure that data is used consistently over time in the calculation of technical provisions and in the internal model
  - Document appropriately any material limitations of the data in relation to the requirements

- **Article 249 SG1, Article 257 SG5**
  - Clarity of responsibilities for managing the business (incl. segregation of duties, three lines of defense and clear reporting lines)
  - Internal control system for compliance, effectiveness and efficiency of operations

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Source: Draft Implementing measures Solvency II (European Commission, 31 October 2011)

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Integrating data and IT systems will be a significant challenge which companies are still addressing.

*European Solvency II survey Ernst & Young (2012)*
Implications for your business

To comply with Solvency II requirements, the following elements are key:

- Data required for Solvency II reports, both internal and external, should be available
- Source data, converted data and calculated data used for the calculations of the technical provision, the internal model and Solvency II reports (including the standard formula SCR calculations) should be appropriate, complete and accurate

In order to achieve these goals, we advise organizations to consider the steps in the figure below.

DNB and FSA published documentation in which they state that current activities for the audit of the financial statement, the financial audit, do not necessarily satisfy Solvency II data quality requirements since:

- The financial audit focuses on the internal control system around the correctness of data and not necessarily on the correctness of the base data itself
- The data which is relevant and material for the financial audit can differ from the data which is relevant for Solvency II (e.g. postal code for calculation of category risk)
- Some errors in specific accounts will not have a material impact on the financial statement, but can have a material impact on the Solvency II Capital Requirement

As a result, current data quality measures may be used as a point of departure, but possibly need to be extended.
With respect to data governance and quality management, EIOPA’s directives and required measures lead to challenges for your company. For reporting under Solvency II, data is very important throughout the process, from source to final reporting. The Solvency II data flow is shown in the figure below.

Challenges regarding your data

Key considerations for insurance companies regarding data governance and quality are:

- Identifying material data, i.e. data with the highest impact. Given the complex models and data dependencies this a significant challenge
- Understanding data lineage needs to be a living process that can be updated as systems and processes change
- The ability to track and explore data lineage on demand should be incorporated into the overall data quality solution to ensure all data quality operations can be completed from a single platform
- Best guess of data quality is not sufficient. An evidenced, system based approach proving data quality is required
- The data governance and data management framework should be embedded into a system to efficiently define, monitor, control and improve data quality on an ongoing basis
- Many insurers are attempting to review data quality using spreadsheets, which only provides a snapshot of the data quality, is prone to error itself, difficult to collaboratively share and is not an ongoing solution or automated method for remediation
- Actively managing data quality does not only meet regulatory requirements, but can also provide business benefit
As a response to the challenges regarding data governance and quality for Solvency II, Ernst & Young has developed a specific approach.

Our approach starts with setting up an appropriate data governance framework. The ultimate goal of data governance policies and standards is not to create unnecessary administrative burden, but to ensure that data is managed as an integrated asset throughout the organization. Ernst & Young can assist you with setting-up, reviewing, and assessing.

Furthermore, a clear data quality management framework is to be defined at the process level. From the process, we take a deep dive into the data. The main risks within the data and corresponding quality measures are investigated by interviewing subject matter experts. The degree to which quality measures are satisfied is assessed by analyzing your databases. This analysis will demonstrate possible errors, which can be efficiently followed up by using our approach.

### Key benefits

The key benefits of our data quality and governance framework for your organization are:

- Efficient and effective data quality assessment approach through a risk based approach
- Insight into key risks within your data
- Insight into deficiencies within your systems and recommendations for preventive controls
- Possibility to address data errors in an efficient way
- Continuous framework to monitor and improve your data quality
- Clear roles and responsibilities regarding data within your organization
- Be satisfactory to regulatory requirements

Point of departure of our approach is the governance and data quality measures that are already available in your organization.
Starting with a governance framework...

Several surveys conducted by DNB, FSA and Ernst & Young show that managing data and implementation of a data policy remains a challenge for most insurers.

Setting up a data governance framework is done to ensure that data is managed as an integrated asset throughout the organization. Our solutions enable you to get insight into the maturity of your data governance. Key elements considered are:

- Policies, procedures and standards
- Roles and responsibilities
- Organizational and functional change management
- Training and awareness

Based on the maturity of these elements, we will assist you in improving your data governance, architecture and quality.

Ernst & Young can also review your data governance framework or perform agreed upon procedures to determine if the current framework complies with Solvency II requirements and leading practices in the market.

Our methodology has proven its value

Our approach has proven its value within projects for four Dutch large pension insurance companies regarding the Quinto requirements of De Nederlandsche Bank.

We have assisted our clients in investigating risks that may lead to incorrect pension claims by means of complex data quality analysis, addressing these risks and improving processes by means of data cleansing, defining preventive controls and continuous monitoring.

Furthermore, Ernst & Young has extensive experience in deploying Solvency II roadmaps and Solvency II data quality assessments.

Data Governance Framework
- Strategic priorities/principles for governance of data
- Data ownership and accountability model
- Rules of engagement - who meets, when, how often, agenda
- Governance roles and responsibilities
- High level control environment
- Define activities for different entities

Data Architecture Framework
- Standards for documentation of the Solvency II data architecture, including systems, data flows, transformations and control points
- Standard for definition of target data model for Solvency II

Data Quality Framework
- Standards for definition of data quality
- Definition of key metrics for measurement of data quality
- Standard for data quality reporting requirements from local geographies and lines of business
Ernst & Young’s data quality framework enables you to get insight into data quality in a quick and efficient way. The framework consists of three main stages:

- **Diagnose phase:** diagnosing your data quality
- **Develop and stabilize phase:** cleansing errors and defining preventive controls
- **Implement and sustain:** implementing continuous monitoring, cleansing and workflow management

Our methodology assists you in identifying key Solvency II data elements and flows of key data elements back to the source. By means of risk assessment workshops, visualization, data profiling and existing documentation, an overview of your key data risks regarding Solvency II will be developed. Based on these risks, business rules will be developed to assess data quality. We offer you a methodology to cleanse errors in your data in an efficient way and to avoid errors by adjusting systems and processes. The third phase in our data quality framework enables you to monitor and improve your data quality on a continuous basis, accompanied by a workflow management system and an audit trail.

### Examples of Solvency II business rules

A business rule is a condition that needs to be satisfied by your data, for instance:

- All insurance and partial claims under a discontinued policy are terminated
- For each active participant, the salary lies above the legal minimum
- For active policies a premium is calculated and charged

We have a proven set of Solvency II business rules to investigate your data quality. Business rules will adapted to specific risks within your organization.

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<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
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<tr>
<td>Diagnose</td>
<td>Develop and stabilize</td>
<td>Implement and sustain</td>
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<td>Rapid assessment including data profiling, risk assessment, visualization, and impact analysis in the context of targeted end-to-end process lifecycle(s)</td>
<td>Clean data</td>
<td>Functional data governance framework</td>
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<td>Note: diagnosis is based on assessment of foundational elements including both technical and functional data quality</td>
<td>Harmonize processes</td>
<td>Exception notification and settlement</td>
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<td>Establish governance</td>
<td>Embedded monitoring program with performance and risk indicators</td>
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<td>Enable monitoring</td>
<td>Fact-based decision-making throughout the organization</td>
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