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Data management in the new world of insurance finance and actuarial

IFRS 17's technical requirements are expected to **lead to a significant increase in data volume** in the finance and actuarial functions. These requirements also accentuate the need to **have high quality data that is accurate and auditable** to support the financial reporting process. This edition of Insurance Accounting Insights describes how the work to address IFRS 17 fit with the approach insurance companies take on data management.

Overview

The emergence of several regional and national regulatory reforms on insurance solvency and financial reporting are creating a number of challenges for the data management of insurers. Requirements for more granular data to support compliance with various regulatory requirements are accompanied with the advent of big data, where there is an increasing amount of digital information being generated and stored. Finally, insurers have to deal more with sophisticated and demanding customers who expect to know more about their insurance contracts and to be known by their insurance service providers.

This combination of demanding regulatory changes, big data opportunities and growing consumer expectations, now more than ever, creates the opportunity to invest in proper data management solutions that enhance the data integration and automation in the insurance industry. How an organisation manages and uses its data to derive business insights that are accurate and timely, will be critical to its long term success.

A new era of insurance financial reporting heralded by IFRS 17

The Financial Crisis of 2008-09 that triggered a long wave of regulatory change and more demanding regulatory requirements has not escaped the insurance sector. A common feature of these new regulations is the demand for more transparency in the operation and performance reporting of insurance companies. The publication of the new International Financial Reporting Standard 17 *Insurance Contracts* (IFRS 17) in May 2017 is expected to lead to the biggest change ever in financial reporting regulations for insurance companies. Insurers will also be expected to implement the International Financial Reporting Standard 9 *Financial Instruments (*IFRS 9) along with IFRS 17 within the next few years.

In addition to IFRS 17 and IFRS 9 requirements, regulators in different countries have, or will be introducing risk-based capital (RBC) reforms that align with the international insurance core principles issued by the International Association of Insurance Supervisors (IAIS). The combined requirements of IFRS 17, IFRS 9 and the new RBC regimes may lead to material changes in the way the insurance companies operate, including the way they manage and use their data. These requirements will also add complexity in the financial and solvency reporting processes. Process efficiency will therefore be paramount in ensuring that reporting deadlines are met at an acceptable cost.

How an organisation manages and uses its data to derive business insights that are accurate and timely, will be critical to its long term success.

Drivers of increased data volume and quality

IFRS 17's technical requirements may lead to significant increase in data volume in the finance and actuarial functions with a corresponding increase in data storage requirements. The increase in data volume is mainly driven by:

• **Increase in granular valuation requirements** – The need to measure and report insurance liabilities using an explicit building blocks approach. The "building blocks" consist of the Best Estimate Liabilities (BEL), Risk Adjustment (RA) and Contractual Service Margin (CSM). This granularity is much greater than what the current IFRS requirements demand where none of these amounts are disclosed.

• **Restatement of prior year numbers** – The need to complete a comprehensive data mining exercise to combine current and historical data to carry out the one off restatement of the accounting history of all insurance contracts that are going to be in force at the time IFRS 17 is first applied.

• **Greater granularity of disclosure and reporting** – The need to change the chart of accounts of the general ledger, produce new financial information including extensive disclosure notes which are more granular than what is done currently.

• **Increase in the use of market data** – The need to measure discount rates based on current market interest rates will necessitate having market interest rate data feeds that are not required under current IFRS. If the option to present the interest rate volatility out of the statement of profit or loss (P&L) is adopted, these market rates would need to be stored based on what they were at the time an insurance contract was sold. They would be used for P&L reporting while the balance sheet would be revalued with current rates at the balance sheet date. The difference is accumulated in equity.

• **Segmentation of portfolios in annual profitability groups** – The need to split each portfolio of insurance contracts into three separate annual profitability groups. Each of these annual groups will need to be accounted for as a separate unit of account with an obvious increase in the volume of data to be produced by the actuarial valuation and reported by the accounting systems.

IFRS 17 requirements also accentuate the need to have high quality data that is accurate and auditable to support the financial reporting process both to the market and for internal management consumption to direct the business. This creates pressure for further data integration and automation and having strong, scalable and flexible IT platforms that can support the financial, as well as, the solvency reporting processes, that operate in a well governed and controlled environment.
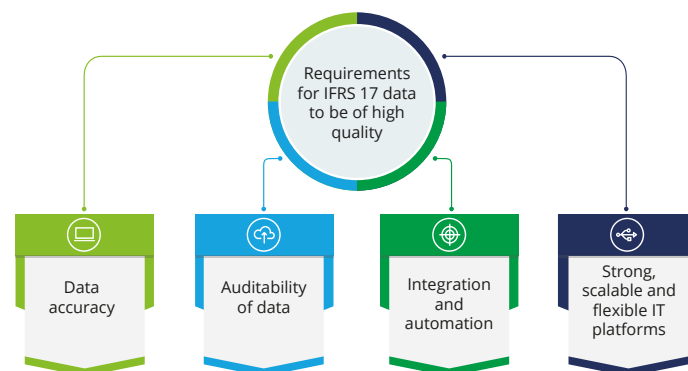
Current Finance and IT infrastructure challenges

Most insurance companies currently operate a fragmented and complex legacy Finance and IT infrastructure. Such a landscape often leads to high operational costs mainly driven by a significant duplication of data and processing. This situation is created by a number of factors including fulfilling similar demands from multiple stakeholders in different ways. This ultimately causes a dilution in the ownership of critical data.

In order to address these challenges, insurance companies should start by answering these three key questions:

1. What business needs does an insurer have to address as a result of IFRS 17?

2. How can an insurer leverage its current IT infrastructure to address business and compliance needs?

3. What data management solutions can an insurer build or buy to address both business and compliance needs?

Most insurance companies currently operate a fragmented and complex legacy Finance and IT infrastructure.

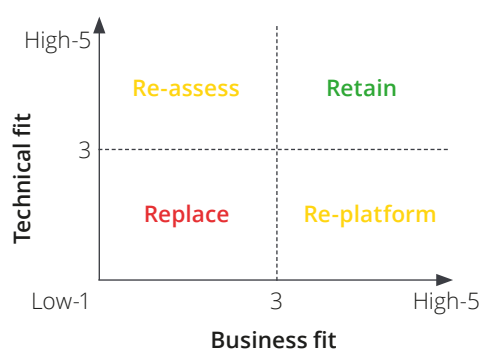## 1. Business needs to be addressed as a result of IFRS 17

The following are some of the critical business needs that insurance companies will need to address as they implement IFRS 17 requirements:

- **Efficiency** – The amount of data output from the actuarial, finance, asset management and risk functions is expected to increase significantly as a result of IFRS 17 and the new RBC reforms. It will be critical for companies to find solutions that will save time in processing this increased volume in data output with the same or even greater efficiency. The need for efficient and controlled processes is important to ensure that an insurer meets its deadlines. The challenge will be to ensure the introduction of efficient processes and effective controls that operate in a well governed environment at an acceptable cost. A number of insurance companies are currently planning to streamline their resources in these areas so implementation of IFRS 17 and any new RBC reform is performed concurrently.

- **Control framework** – One of the key requirements under IFRS 17 and the new RBC reforms is the need for accuracy and auditability of processes and data used in financial and solvency reporting. In addition, insurance companies will need to provide reconciliations of the different reporting balances to the different stakeholders – in particular investors and analysts.

- **Disclosure requirements** – IFRS 17 will increase the volume of disclosures. This is partly in response for a need for greater explanation of what is a more complex measurement approach to insurance contracts and more generally the demand from investors for greater transparency of the reported numbers. IFRS 17 will allow global investors to more easily compare reported numbers across jurisdictions given the accounting for insurance contracts will be prepared using the same accounting language.

- **Management information** – Insurance companies need to effectively manage their risks as well as enhance their returns. Understanding how risks and return interact is data intensive and requires timely and accurate data. Insurers should consider increasing the data used for analytics with new IFRS 17 finance and actuarial data to enhance the quality of their business insights and ultimately their business decision making processes.

2. Leveraging the current IT infrastructure

A critical step for insurance companies will be to perform an IT assessment. For each system that forms part of the finance and actuarial IT architecture, a technical and business fit assessment should be performed to evaluate if the system is an appropriate platform that can meet the current and future business requirements and IFRS 17 technical and operational requirements.

In Deloitte, we use a "4 R" framework where a system is assessed based on its technical and business fit. A score of 1 indicates the system is not suitable and 5 indicates it is highly suitable.

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High-5 ┤
       │     Re-assess        Retain
Technical fit
     3 ┤- - - - - - - - - - - - - - - - - -
       │     Replace          Re-platform
       │
 Low-1 └────────────┬────────────────→
                    3          High-5
                  Business fit
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The top left and bottom right quadrants show systems that should be re-assessed or re-platformed because they do not meet the business or technical requirements respectively. The top right quadrant indicates systems that meet both the technical and business requirements while the bottom left quadrant indicates systems that will need to be replaced or retired as they don't meet the current technical requirements and do not address the business needs of the company.

After performing a systems assessment, an entity should evaluate what it needs to do in order to address any deficiencies.

A critical step for insurance companies in the IFRS 17 journey is to perform a maturity assessment of their IT systems.

3. Data management solutions

One of the challenges most insurers will face is to turn the current fragmented legacy Finance and IT systems into strong, scalable and flexible platforms capable of managing multi-GAAP requirements (e.g. IFRS, Economic Capital, Embedded Value, new RBC etc.) and the expected future growth of the company within a tightly controlled environment. It is likely that data management solutions (DMS) will feature in this and companies should look at targeted investments in this space.

The choice of DMS will be based on a number of considerations which include:

• **The maturity of an insurer's current Finance & IT infrastructure**
We expect insurance companies with more mature infrastructures to invest more on solutions that will move them along their digital journey, while companies with less mature infrastructures will need to first get the basics right. Companies with medium maturity would most likely invest in more tactical solutions that will address specific gaps.

• **The insurer's size, nature and complexity of its business operations**
Big companies offering multiple products in different jurisdictions will need to invest much more in DMS to facilitate efficiency across the jurisdictions they operate in comparison to smaller companies operating in one or just a few jurisdictions.

• **The maturity of an insurance market and its regulatory environment**
Companies operating in more mature insurance markets with regulatory environments that have already evolved to reflect the principles of IFRS 17 and the larger number of new RBC reforms have generally made more investments in DMS than companies in other markets. For example, European Union companies reporting under Solvency II have already made major investments in data and systems and we would expect a less significant investment to address the IFRS 17 requirements than those insurance companies that have not been through a similar implementation of a new RBC regime like Solvency II.

There are a number of DMS available to insurance companies as described in the next section.

3.1. Digital solutions

There are a number of newer technologies available that can be used by the finance and actuarial functions to enhance their existing capabilities or provide new and different capabilities.

Such technologies are well proven in other sectors but have not as yet featured heavily in Insurance Finance and Actuarial. They include:

Cloud computing: Cloud allows scalable, elastic technology to deliver on-demand services over the internet. Many adopters of Cloud have derived significant cost benefits although the highly fragmented and bespoke solutions present in some Insurance functions can be challenging to move into the Cloud.

Cloud can also increase productivity and collaboration among teams and allow 'virtual close' where some traditional month-end activities and reporting can be done instantaneously. This will increase the efficiency of the reporting processes; an important requirement that will enable an insurer to meet its deadlines for the different reporting requirements at an acceptable cost.

In-memory computing: This refers to storing large data volumes in 'main memory' to get much faster response times. This allows real-time analysis on quantities of data that were previously unimaginable.

Given the expected large increase in data volumes as a result of IFRS 17 insurance companies should consider exploring the opportunities that in-memory computing offers. This could be useful especially in the calculation of the insurance liabilities under IFRS 17, where very granular data is used to calculate the fulfilment cash flows and their impact on the CSM at individual annual profitability group level.

Advanced analytics and visualization: The new liability valuation rules under both IFRS 17 and the new RBC reforms offer an opportunity for the finance and actuarial functions to add valuable insights to the business because they would be working from a common set of rules for the first time in the insurance sector's history.

Finance and actuarial functions can achieve new levels of insight and productivity by investing in tools that enable the enrichment of the current analytics processes and by providing timely and accurate business insights in a format that is easily understandable by different stakeholders across the organization. For example, investment in predictive modelling tools, enhanced planning and forecasting techniques. This technology is often combined with 'in memory' computing to radically improve both speed and insight.

3.2. Data automation solutions

It is highly likely that companies will seek increased automation as they respond to the challenges of IFRS 17. Solutions can be strategic or more tactical, focusing on specific areas of challenge. Such solutions include:

Data manipulation technologies: These technologies can be used in various processes that are currently manual or undocumented by applying automated processing solutions in targeted areas. Examples include standard enterprise ETL tools and more computational solutions such as R and some SAS technologies.

Robust spreadsheet solutions: These solutions can be used when an entity decides to maintain its current processes of using spreadsheets but invest in robust spreadsheet solutions such as: building workflows; robotic-type solutions to automate the interfaces between the spreadsheets; or simply building and maintaining spreadsheets using strict software engineering principles.

3.3 Data centralisation solutions

These solutions could be ideal for companies with less mature IT infrastructure that may need to replace or retire most of their systems. There are a number of options available and they include:

Data warehouses: These systems hold large quantities of structured data from the actuarial, finance, risk, asset, policy and transactional sources. A data warehouse can provide highly robust solutions if properly implemented but can often be expensive because a lot of work is required to apply a common structure to all the legacy data and to integrate the warehouse with the applicable systems.

Unstructured databases: This involves developing a store or 'data-lake' that holds the source data with limited transformation and relies more on powerful extraction and analysis technology, including in-memory computing. This approach allows companies to centralise the data landscape without the complexity and investment required to develop full scale data warehouse.

Sub-ledger: This involves creating a sub-ledger within the existing systems to address specific data aggregation and reporting requirements. By developing a sub-ledger to store and process the granular data required to deliver the numbers and disclosures for IFRS 17, the general ledger can be better protected from the scale of the change. A number of specific IFRS 17 sub-ledger products are already well developed by companies such as SAP and Aptitude.

Conclusion

Insurance companies can address challenges around their Finance and IT infrastructure by investing in DMS that enhance their data integration and automation. The choice of the solution will be based on individual business needs including the maturity of the existing architecture. Investing in DMS is a necessary and substantial step in addressing the business and compliance requirements of IFRS 17 and other related regulations.

There is a range of data management solutions available to insurance companies. However there is no 'one size fits all' solution and each company will need to develop its own data management strategy that will inform the kind of solutions that it decides to build or buy. In order to achieve a high return on investment, leading insurers will use the mandatory IT spend required to meet the new regulatory requirements as a springboard to operational transformation in order to derive various business benefits as described in this paper. This IT spend needs to compliment the wider business environment and it should be on the strategic agenda of every insurance company.

It will be important for insurance companies to choose the right solutions to define their data management strategy. Given that this choice will be part of a non-negotiable IFRS 17 implementation timeline, it should be made as soon as possible starting with an assessment of all the relevant business and compliance requirements.

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