Modeling Best Practices – An IFRS 9 Case Study

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ABSTRACT

A successful conversion to the International Financial Reporting Standards (IFRS) standard known as IFRS 9 can present many challenges for a financial institution. We discuss how leveraging best practices in project management, accounting standards, and platform implementation can overcome these challenges. Effective project management methodology ensures business stakeholders are actively engaged during the implementation of the solution. Business partnership with the implementation team and enablement for business stakeholders are vital to the success of the solution. Project management methodology must focus on effectively defining success criteria, all major decision points, and thorough documentation of the platform and traceability for unique configuration directly to specific business requirements. Understanding the nuances of the IFRS 9 standard, specifically the impact of bucketing all financial assets according to their cash flow characteristics and business models, is crucial to ensuring the design of an efficient and robust reporting platform. Credit impairment is calculated at the instrument level, and can both improve or deteriorate. Changes in the level of credit impairment of individual financial assets enters the balance sheet as either an amortized cost, other comprehensive income, or fair value through profit and loss. Introducing more volatility to these balances increases the volatility in key financial ratios used by regulators. A robust and highly efficient platform is essential to process these calculations, especially under tight reporting deadlines and the possibility of encountering challenges. Understanding how the system is built through the project documentation will ensure ongoing scalability and adaptability.

INTRODUCTION

Ensuring that the appropriate impairment models are being used in an IFRS 9 solution can be a challenge. The challenge comes from the principle-based nature of IFRS 9, which includes qualitative components of credit risk. Furthermore, implementing an IFRS 9 solution occurs over the span of months during which the nature of the organization, the marketplace, or even the requirement can change. These challenges can be mitigated through a combination of appropriate project management methodology, understanding how the IFRS 9 standards are applicable to your organization, and a highly adaptable technology stack.

PROJECT MANAGEMENT METHODOLOGY

The two most common project management methodologies are the waterfall and agile. A common perception is that these methodologies are mutually exclusive; a project should use either the waterfall methodology or the agile methodology (see Figure 1 Traditional Project Management Methodology Dichotomy). In reality, these methodologies represent a spectrum (see Figure 2 Project Management Methodology Spectrum). A project can be fully waterfall or fully agile but most often will incorporate components of both methodologies. The waterfall and agile project management methodologies are toolkits and project managers should leverage components of each to create a hybrid approach to enable the most effective delivery.
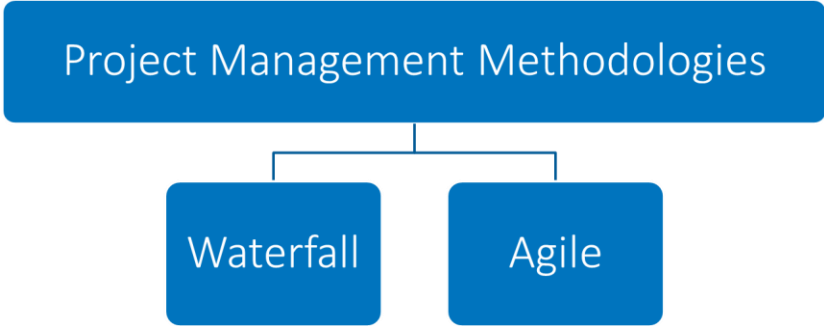
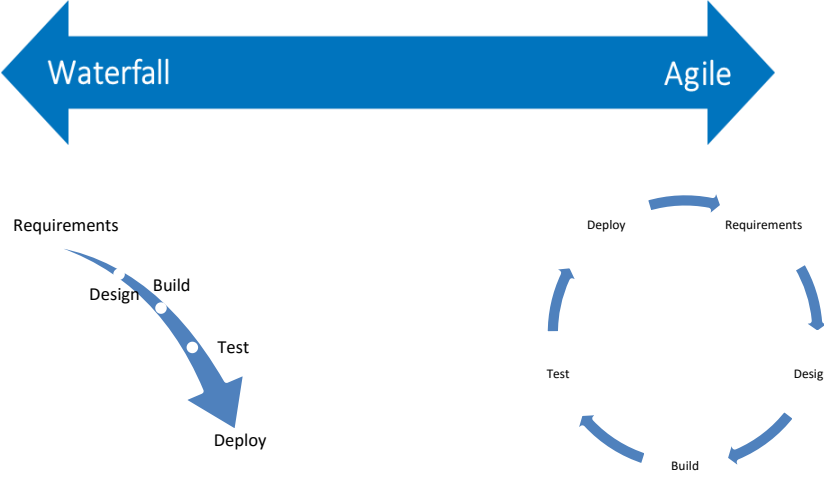Figure 1 Traditional Project Management Methodology Dichotomy

Figure 2 Project Management Methodology Spectrum

An additional dimension must be added to the project management methodology to fully represent a project's goal: enablement (see). The enablement dimension is a measure of how involved the business team are in the deployment of a new solution. At the top of the enablement dimension is fully coached. Fully coached represents a business team who partner with the implementation team throughout the project and thoroughly understand the new solution as it as being implemented. As a result, the business partners believe that the new solution meets their requirements and develop ownership of the solution throughout the implementation.
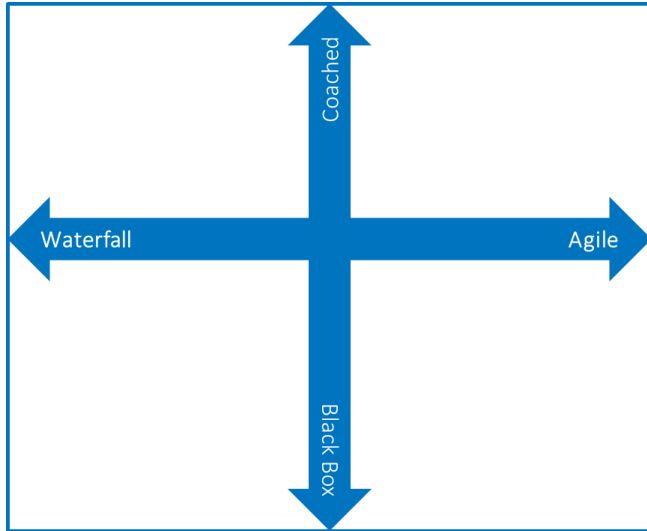
Figure 3 Project Management Quadrant

The implementation team's fundamental responsibility is to empower the business to realize maximum value from the solution. A solution implementation is a beginning, not an end. For it is the end of the implementation where the recognition of value begins. An optimal solution implementation enables fully coached business partners to scale value from the solution beyond any limits.

At the bottom of the enablement dimension is black box. This represents the implementation of a solution with minimal partnering from the business. All development and configuration is done before the solution is handed over to the business. Adoption by the business community is challenging and stakeholders will likely resist ownership.

Barring any overriding considerations, the optimal position for a project along these quadrants is as close to fully coached as possible and as close as possible to the mid-point between waterfall and agile. A fully coached business team will achieve full adoption of the solution as part of the implementation. Likewise, a fully coached business team will help identify and resolve undiscovered requirements. The continually evolving nature of requirements is why a hybrid of the waterfall methodology and agile methodology is ideal. The structure provided by the waterfall methodology (see Figure 4 Traditional Waterfall Phases) provides an excellent framework to layout the overall project plan. The combination with agile methodologies occurs by using agile approaches within waterfall phases (see Figure 5 Waterfall Phases with Embedded Agile).
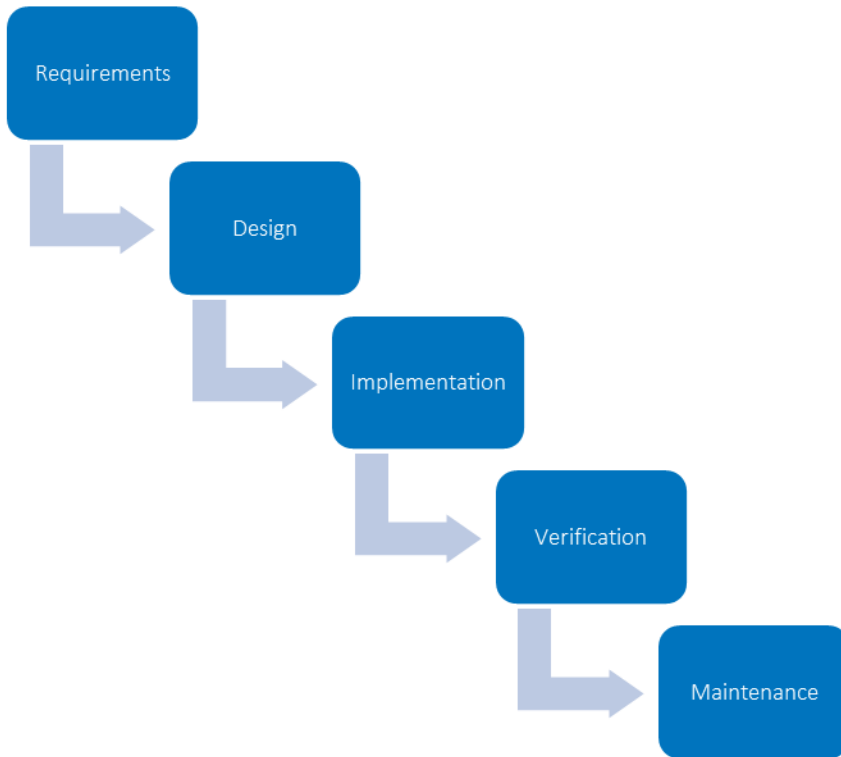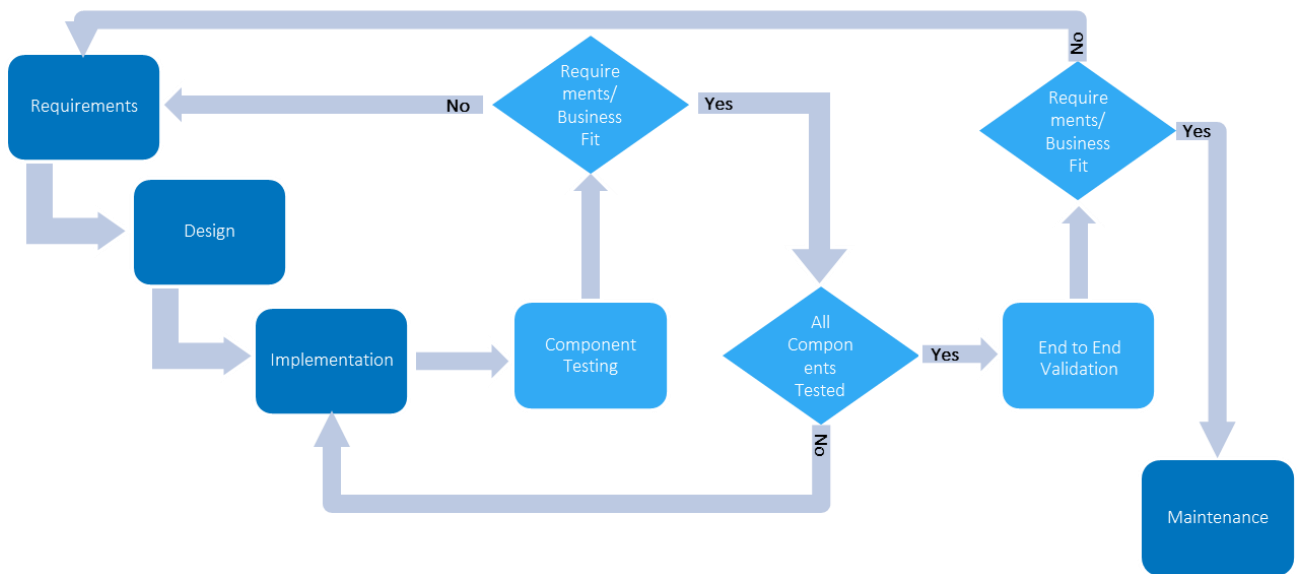
Figure 4 Traditional Waterfall Phases

Figure 5 Waterfall Phases with Embedded Agile

In practice this means that the solution is developed in smaller, discrete components. Each of these components is tested as they are ready. The testing is against not just documented technical requirements but also business fit. The challenge with any new solution is fully discovering all requirements for using a new technology. Business fit represents that gap; the unknown unknowns. As new requirements are fleshed out of business fit, they are prioritized against existing requirements and their impact to the overall project design is determined. If the new requirements are determined to be

necessary, given those considerations, that component reenters the implementation phase. Once all of the components have been completed, the solution enters the end to end validation stage and is tested end to end against existing requirements and for business fit. Gaps enter the requirements and design phases and are evaluated against overall design for fit and cost/benefit.

The key drivers in developing impairment models for an IFRS 9 solution are data quality and data governance. These two drivers are highly correlated. If source system or repository data is of poor quality and requires extensive transformation and enrichment, the need for data governance grows. As regulatory reporting matures, regulators are looking at not whether the numbers can be produced, but how they were produced. This is especially true for an IFRS 9 solution since IFRS9 is more principle-based than rule-based. The business will have to be able to justify exactly how it has arrived at the numbers which it is reporting.

IFRS 9 STANDARD

Determining the appropriate impairment modeling methodologies for IFRS 9 begins with understanding the requirements of the standard. IFRS 9 aims to provide "…more timely recognition of loan losses and is a single model that is applicable to all financial instruments subject to impairment accounting."(IFRS Foundation 2014). IFRS 9 accomplishes this through a three-phase process: Classification and Measurement, Impairment, and Hedge Accounting. The focus of this paper will be on Classification and Measurement, and Impairment. Hedge Accounting will not be covered.

The Classification and Measurement phase sorts financial assets into their appropriate IFRS 9 categories and determines the appropriate valuation methodology. As a result, there is "…a single impairment model being applied to all financial instruments removing a source of complexity associated with previous accounting requirements."(IFRS Foundation 2014). Classification is driven by (1) the business model for managing the financial assets and (2) the contractual cash flow characteristics of the financial asset. Based on its classification a financial asset will be measured at either (1) amortized cost, (2) fair value through profit or loss, or (3) fair value through other comprehensive income. Figure 6 Process for Determining the Classification and Measurement of Financial Assets presents the Classification and Measurement flow chart provided by IFRS Org.
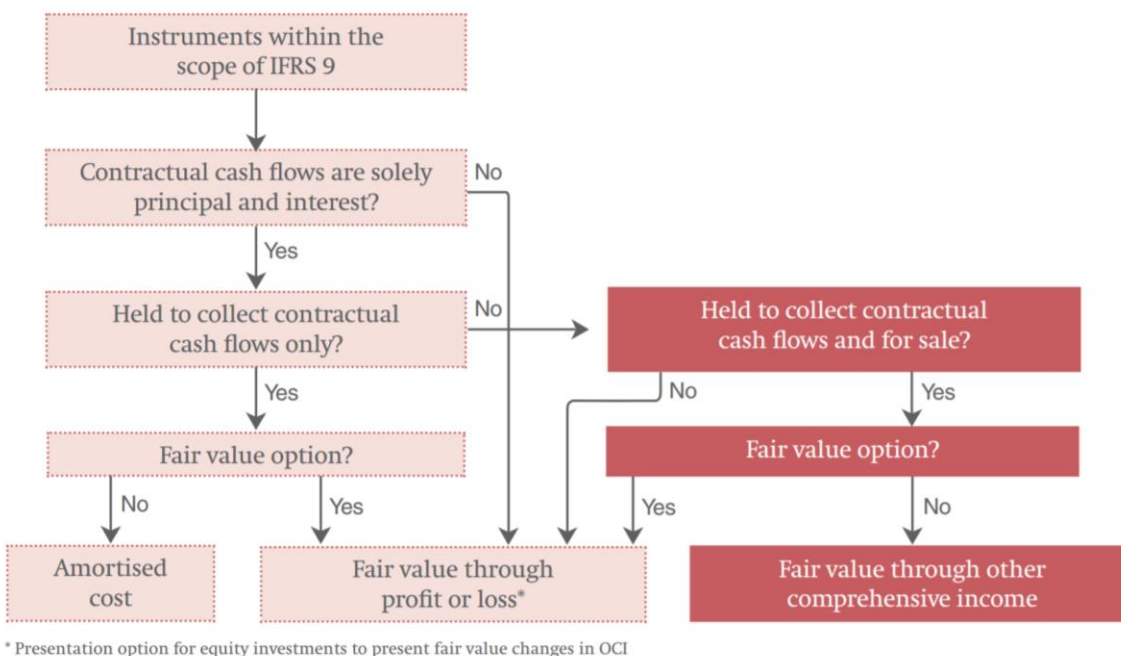

Figure 6 Process for Determining the Classification and Measurement of Financial Assets

The business model of a financial asset tests the objective of holding the financial asset. The SPPI test determines if an institution is holding the financial asset to collect solely payments of principle and interest. These instruments can be measured at either amortized cost or fair value through profit or loss by invoking a one-time, irrevocable fair value election.

If a financial asset is held solely for sale it is measured at fair value through profit or loss. If a financial asset is held to collect contractual cash flows and for sale then it is measured as fair value through profit or loss, unless a one-time, irrevocable election to measure at fair value through other comprehensive income.

The Impairment phase requires that expected credit losses are accounted for when a financial instrument is first recognized if it is not measured at fair value through profit or loss. It also lowers the threshold for recognition of full lifetime expected losses. This means that credit losses are calculated earlier and more frequently. IFRS 9 requires a dual measurement approach; a 12 month expected credit loss calculation or a lifetime expected credit loss calculation. Financial assets that are currently performing since initial recognition have their impairment calculated for the following 12 months of expected credit losses. If there is a change in credit quality since initial recognition the impairment model changes to lifetime expected credit losses. A change in credit quality includes underperformance as well as non-performance.

Impairment modeling can occur across a spectrum, from a basic approach to an advanced approach. A basic approach to impairment modeling is to use management judgment to determine provision. While this approach greatly simplifies the impairment modeling process it is not easily verifiable in terms of accuracy or appropriateness and so is not likely to be accepted by regulators.

An intermediate approach to impairment modeling generates a probability of default using simple statistical averages with flat loss given default assumptions. Loss curves are generated using external benchmarks and economic forecasts are included as a management overlay. This is more likely to be accepted by the regulators because of the quantitative valuation of losses. However, the simplistic probability of default calculation will most likely not be an acceptable long term approach.

An advanced impairment modeling approach would include robust models to incorporate forecasts of macroeconomic conditions used to adjust loss curves. Also, probability of default, loss given default, and exposure at default curves are updated with both internal and external data. While the regulators would be very supportive of this approach, explaining the results to non-statisticians such as investors and senior management can be challenging. Maintaining a system this robust and complex also requires a significant dedication of resources.

The correct impairment modeling approach will be determined by the unique complexity of each organization, the nature of the organization's financial asset portfolio, and the macroeconomic factors to which the organization is subject. Since IFRS 9 is a new, principle-based reporting requirement that can require a range of impairment calculation approaches at the loan and portfolio level an iterative project management approach is highly recommended. Requirements might not be fully defined at the onset of the project. Furthermore, the adaptability and flexibility of the SAS® technical solution allows for multiple solutions for a single requirement.

TECHNICAL SOLUTION

Figure 7 Software Components in SAS IFRS 9 Solution showcases the software components of SAS IFRS 9 solution and data flow of the Expected Credit Loss process. There are three layers: data management, analytics/process management, and reporting.
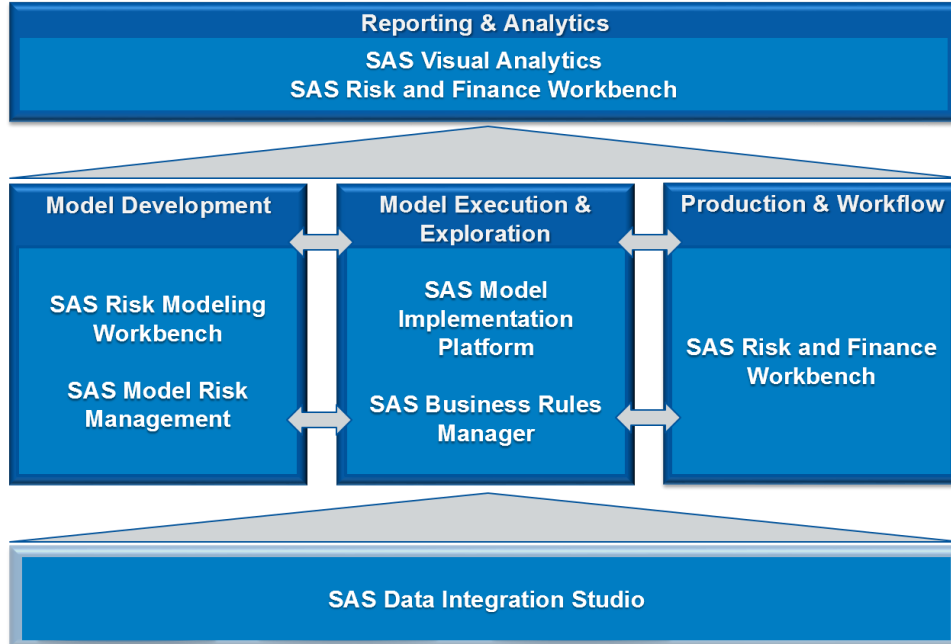
Figure 7 Software Components in SAS IFRS 9 Solution

SAS® Data Integration Studio is used to prepare data to be consumed by downstream processes. SAS® Risk Modeling Workbench and Model Implementation Platform is leveraged to create and implement models. Once models are executed, loan-level data flow into SAS® Business Rules Manager to go through stage allocation. At this step, the ECL for each instrument has been evaluated and each instrument is assigned an appropriate stage. They will be aggregated according to specific hierarchies (for example geo, organizational chart, and so on) and loaded into SAS® Risk and Finance Workbench. Management can review aggregated ECL at different levels and apply overlay if needed. SAS® Visual Analytics can be used for internal/management reporting. The discrete interactions of these components are illustrated in Figure 8 Data Flow in SAS IFRS 9 Solution.
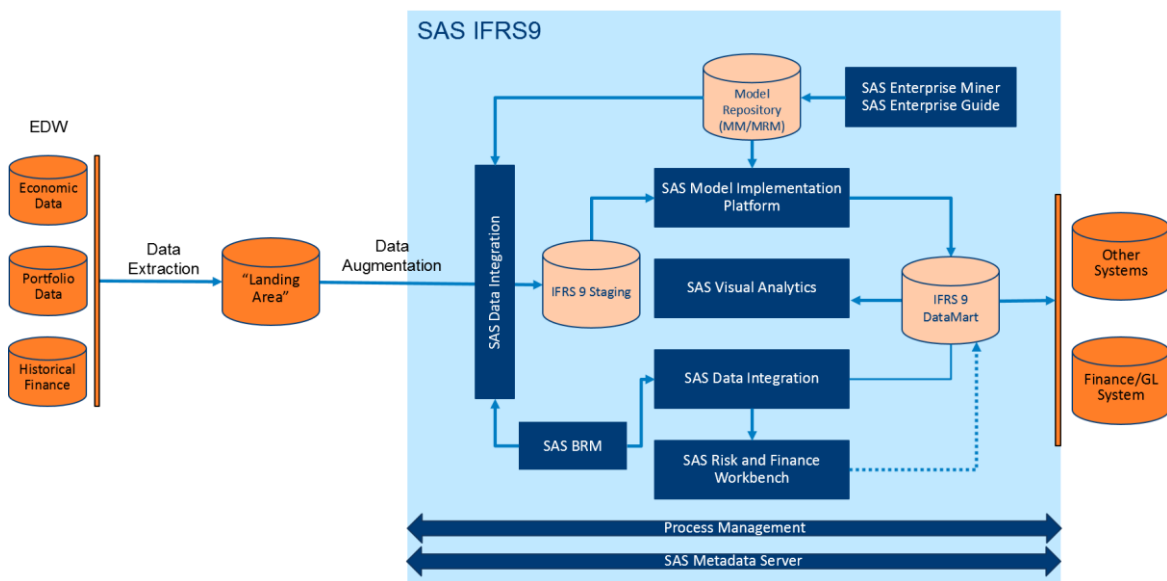
Figure 8 Data Flow in SAS IFRS 9 Solution

Figure 8 Data Flow in SAS IFRS 9 Solution also illustrates the upstream and downstream data feeds for the IFRS 9 solution. SAS Risk and Finance Workbench can be leveraged to produce regulatory reports as those reports templates are pre-built and are shipped with the solution.

CONCLUSION

Gathering all of the requirements upfront for and IFRS 9 implementation is challenging since it is a new impairment calculation process that is principle based. Therefore, a hybrid of waterfall and agile project management methodologies is the optimal approach to ensure a successful implementation.

Waterfall methodology should be used to provide the broad project structure of gathering requirements, design, implementation, testing, and maintenance. Agile project management methodology should be incorporated at the implementation/testing phase. This iterative process will allow for undiscovered requirements to be identified and evaluated.

Impairment model methodologies and effectiveness will be limited by the source data quality and the appetite for data governance activities. Data governance will have to be enhanced if source data requires extensive transformation or enrichment. Furthermore, the principle-based nature of the IFRS 9 standard means there are qualitative factors that will have to be considered in the final impairment calculations.

SAS offers a highly flexible and adaptable technology stack to address each organization's unique need to capture asset information and corresponding impairment calculations. Input data can be transformed and enriched at multiple points in the platform with the appropriate corresponding data governance to meet impairment modeling needs. Calculated impairment model results can be modified to account for qualitative factors also with the appropriate corresponding data governance.

REFERENCES

IFRS Foundation. 2014 "IFRS 9 Project Summary July 2014". Accessed February 27, 2017. Available http://www.ifrs.org/Current-Projects/IASB-Projects/Financial-Instruments-A-Replacement-of-IAS-39-Financial-Instruments-Recognitio/Documents/IFRS-9-Project-Summary-July-2014.pdf.

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