

IDC ExpertROI® SPOTLIGHT

SAS Is Helping Standard Chartered Comply with IFRS 9 Quickly and Cost Effectively

Sponsored by: SAS

Kevin Permenter Harsh Singh
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Overview

Standard Chartered PLC is a leading international banking group, with more than a 150-year history in some of the world's most dynamic markets. Present in 63 countries and territories, with over 1,000 branches and around 3,000 ATMs, Standard Chartered is listed on the London and Hong Kong Stock Exchanges, as well as the Bombay and National Stock Exchanges in India.

In 2017, Standard Chartered reported operating income of US\$14.3 billion and an asset base of US\$663 billion.

Standard Chartered, like other multinational banks and financial services companies, had to comply with new International Financial Reporting Standard 9 (IFRS 9) ahead of the January 1, 2018, deadline. These new standards, which were first proposed in March 2008 and then further developed to respond to the 2008-2009 global financial crisis, are intended to address concerns by many investors about the recognition of impairments being "too little, too late."

According to Davide Crippa, Global Head of Risk Measurement, and his colleague Daniel Gelinis, Head of IFRS 9 Risk Delivery at Standard Chartered, these new regulations, which were issued in 2014, have created significant additional work and complexity for most banks. They explained that IFRS 9 requires provisioning models that are unbiased and forward looking. Models are required for all financial assets, which are not fair valued through profit and loss, and as such, much more data is required – in combination with the statement of clear and reasonable assumptions so that statutory auditors and regulators can test these assumptions and understand how the overall provisions are computed. Despite having in place an extensive number of internal models for regulatory capital calculation, Standard Chartered realized that achieving and maintaining compliance with IFRS 9 would be very resource intensive, involving the development of a large number of additional models as well as a new platform for supporting IFRS 9 model implementation and

Business Value Highlights

Organization: Standard Chartered

Location: Headquartered in London with worldwide operations primarily led from Singapore while operating in more than 60 markets worldwide

Challenge: Develop a new platform to build, deploy, and manage all models needed to comply with new IFRS 9 regulations

Solution: SAS Expected Credit Loss

Five-Year Cumulative Benefits:

- 27% lower total five-year cost for IFRS 9 compliance
- 17% more efficient model deployment in support of IFRS 9 compliance
- 60% more efficient model maintenance and management in support of IFRS 9 compliance

deployment while putting in place reporting mechanisms to handle voluminous data from across its widespread operations.

Crippa and Gelinias explained that, upon issuance of the IFRS 9 in 2014, Standard Chartered turned to identifying a strategic solution to accomplish compliance cost effectively and efficiently. The bank chose a series of SAS tools, which later became known as the SAS Expected Credit Loss platform, after concluding that they offered the most flexibility and would enable Standard Chartered to meet the challenge of deploying over 200 models to achieve compliance with IFRS 9. Standard Chartered knew that it would need to make frequent changes to these models after their deployment, and the SAS solution was deemed able to handle these changes more efficiently than other solutions. Further, and equally important, the bank expected it to serve as a unified platform for additional functional deployment, such as stress testing activities, and for enabling efficient auditing efforts.

With the SAS Expected Credit Loss platform in place, Standard Chartered successfully met the January 1, 2018, deadline for building and deploying the models needed for IFRS 9 compliance. The SAS solution reduced the complexity and staff time required to accomplish this, thus allowing the bank to achieve initial IFRS 9 compliance at a lower total cost than it would have using tools and processes it had previously adopted for other modelling efforts. Now as the company transitions from meeting the deadline to maintaining compliance and enabling more efficient stress testing and auditing, Crippa and Gelinias expressed confidence that the SAS platform will allow their company to execute these activities at a significantly lower cost than if the company had not deployed the platform.

Based on conversations with Crippa and Gelinias, IDC has quantified the costs for building, deploying, and maintaining the models required for IFRS 9 compliance with the SAS Expected Credit Loss platform and compared those with the costs they would have incurred with tools and processes used for other modelling efforts. IDC projects that Standard Chartered will achieve and maintain IFRS 9 compliance at a 27% lower cost over five years with SAS Expected Credit Loss.

Implementation

The International Accounting Standards Board (IASB), in conjunction with the United State-based Financial Accounting Standards Board (FASB), started developing new guidelines for classifying and measuring financial assets in early 2008. The new IASB standards, issued as IFRS 9 and designed to replace IAS 39, were informed to a significant extent by the financial crisis of 2008-2009. The IASB promulgated the IFRS 9 guidelines in 2014 and set a date of January 1, 2018, for the guidelines to come into effect. According to the IASB, IFRS 9 was designed to enhance the ability of users of financial information to understand the accounting of financial assets. In particular, the guidelines require use of a single approach to determine whether an organization values assets using an amortized or fair value approach and creates an obligation to use a single method of measuring potential impairment of all financial assets, placing significant new obligations on financial institutions adopting these standards.

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Crippa and Gelinias explained that Standard Chartered was already developing and deploying a variety of models using various solutions, but that the company could not meet IFRS 9 requirements with any of those approaches, since the new IFRS 9 models required much more data and much more flexibility in their deployment and maintenance. The bank understood that

this would mean building a new modeling platform from scratch, one that it quickly decided would need to be developed with the help of a third-party, vendor-based solution.

Standard Chartered issued a request for proposal (RFP) in 2015 and received responses from several vendors. Crippa explained that, when SAS presented its platform, the bank was positively impressed by its flexibility. This attribute would be essential for meeting the stringent and time-sensitive IFRS 9 requirements. Crippa commented, "*We concluded that, given the considerable number of models we had to build in a limited time frame, the SAS platform would provide the greatest amount of flexibility in terms of building, deploying, and modifying models. In addition, we felt that the platform would be well suited to become our strategic modeling infrastructure and support additional functional deployment, for instance, to perform stress testing activities.*" Gelinas elaborated, "*We needed a platform that would allow us to build models with efficiency and implement them very rapidly. The SAS solution allowed us to do this.*"

Standard Chartered began implementing the SAS platform in January 2016 to support the deployment of models necessary for IFRS 9 compliance that were being built in parallel. While Crippa and Gelinas characterized the deployment of the SAS solution and launch of the bank's IFRS 9 program as complex – reflecting the need to source data from 60 to 70 systems across the organization and build over 200 models – they reported that, within two months, Standard Chartered had already begun implementing models and components on the SAS platform.

By March 2016, Standard Chartered had put in place an agile implementation process that enabled delivery of new models every two weeks. During the process, SAS provided support in configuration, using consulting programmers onsite to work with the Standard Chartered team to ensure that the platform ran optimally and the configuration met reporting needs. According to Gelinas, "*SAS was instrumental in developing the structure, writing a large portion of the ECL solution, and helping the team structure the code so it can run more efficiently in production to ensure that we would meet our timeline.*" To appropriately deliver the project, a one-month long pre-project preparation session was held across the SCB business, modeling, finance, and technology community in collaboration with the SAS team. This allowed a consistent understanding of the target goal from all key stakeholders responsible to deliver the solution.

Benefits

Crippa and Gelinas agreed that the SAS platform has not only helped Standard Chartered achieve initial compliance with IFRS 9 by the January 2018 deadline, but that the SAS platform will also support the company's ongoing maintenance efforts. With SAS, the bank will need to devote less staff time to deploying, maintaining, and changing the models that enable it to correctly value potential impairment of financial assets, thereby lowering its cost of complying with IFRS 9. Further, they credited the SAS solution with helping ensure robust compliance in a compressed time frame of less than the projected two years required to build and deploy over 200 models that leverage data from 60 to 70 systems.

Standard Chartered has significant experience developing models that are subject to various regulatory compliance requirements. Nonetheless, the bank realized that IFRS 9 compliance posed specific challenges that would have strained its typical model-building processes, including:

- The number of models, and the expectation that model changes would have to occur more frequently than for existing regulatory models
- The amount of data required to support each model

- The complexity of calculations and the stringent timeline to perform them in production
- The need to fully integrate risk and finance systems to ensure reconciliation of the ECL calculation for financial assets with the GL-reported financial assets
- The relatively short period – less than two years – to ensure initial compliance

Crippa explained why the bank's existing modeling processes would prove too costly and inadequate in the context of IFRS 9. Crippa said, "*The cost of implementing and deploying a single model varied widely, and the timeline was between two and six months, because it was based on different technologies and processes. Given the number of models and the expectation of frequent changes, we needed to adopt a much nimbler approach.*"

On January 1, 2018, IFRS 9 went into effect, and Standard Chartered had built and deployed over 200 models required for initial compliance using the SAS platform. Gelinas noted that the bank leveraged the SAS solution to substantially speed up the deployment of new models and that this was done through an agile approach where mini-releases were delivered at intervals of two weeks rather than months-long release windows.

The SAS Expected Credit Loss platform offers capabilities that have reduced the time the modeling team must devote to building and deploying each model, including:

- Access to clearly defined metadata
- Built-in templates designed for reuse
- Auto-email generation
- Enhanced visibility into model structures and data

"The ability to develop and implement models using the same coding approach within the SAS solution provides great efficiency. The IFRS 9 solution can take modelers' SAS code (typically in SAS base or SAS EG) and integrate it seamlessly in the ECL calculator."

Gelinas described the benefits in terms of efficiency and quality of deploying new models in support of IFRS 9 compliance:

- **Efficiency:** "*The ability to develop and implement models using the same coding approach within the SAS solution provides great efficiency. The IFRS9 solution can take modelers' SAS code (typically in SAS base or SAS EG) and integrate it seamlessly in the ECL calculator.*"
- **Quality:** "*We had a deadline of January 1, 2018, so we needed to develop a solution. Quality was a question, and I think the SAS solution has allowed us to arrive at fairly advanced quality within a reasonable time span.*"

Now that IFRS 9 has taken effect, the compliance challenges are changing. The focus will transition from model building and deployment to managing and making required adjustments to models as needs and regulations change. As Gelinas explained, "*The models we built for IFRS 9 compliance will need to be recalibrated on a much more frequent basis than our other models.*" This will require the bank to have functionality that enables changes and modifications to be made in a timely and efficient way.

With the SAS Expected Credit Loss platform, the bank's modeling team will need to spend less time supporting existing models for IFRS 9-related compliance, increasing the team's productivity levels and allowing the team to focus more time on other projects. Crippa explained the value of this, "*I think we'll be able to run IFRS 9 activities on the SAS platform with a fairly limited number of people*

compared to the size of our institution." This has the potential to be a value differentiator for Standard Chartered in that they can dedicate more staff time to supporting the generation of business.

Beyond efficiencies related to IFRS 9 models, the SAS solution is helping Standard Chartered operate a nimble and robust modeling environment, while providing opportunities for additional enhancements. Carrying out all Standard Chartered's IFRS 9 model implementation and governance on one platform is also giving it the opportunity to make the company's stress testing more efficient. Crippa and Gelinias explained that most banks built their IFRS 9 capabilities on the back of their stress testing infrastructures. However, Standard Chartered saw a unique opportunity to take the reverse path, with the SAS IFRS 9 solution being expanded to provide a strategic stress testing platform leveraging all data, controls, and processes that have been put in place for IFRS 9. As a result, Crippa put it, *"There is a significant added value in the SAS IFRS 9 solution because we are able to recycle a lot of what we have created to build a robust strategic stress testing engine."*

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Another benefit of the SAS platform is the clear audit trails it provides. Gelinias described the importance, *"The SAS solution provides a preset level of governance, which is helpful in providing clear audit trails. Having the capability to drill down into each interaction with the model is very important, and all data is logged. If you wanted to find out who has made a change to a certain model or rule, that can be easily traced."* Having this chain of logic is critical for auditors to understand changes made to models and the reasons for adjustments. As a result, auditors have a better understanding of the logic behind each model. This means less work for both Standard Chartered and external auditors.

Quantifying the Benefits

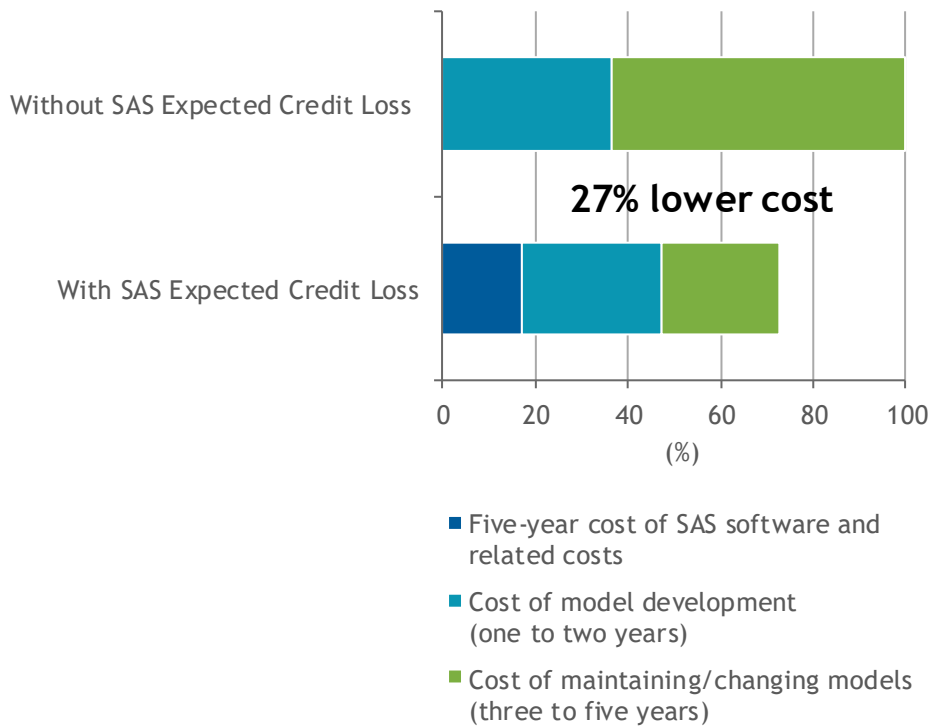
Based on discussions with Crippa and Gelinias, IDC has quantified the cost for Standard Chartered of ensuring compliance with IFRS 9 regulations using the SAS solution, as well as the projected cost of using the modeling tools and processes the bank has in place for developing and deploying other types of models.

Through this analysis, IDC created a cost-benefit analysis to understand the value for Standard Chartered of investing in and using the SAS solution as the foundation for its IFRS 9 compliance project. Over five years, IDC calculates that Standard Chartered will realize net savings of 27% on the total implementation and maintenance cost of the solution compared with other solutions.

For purposes of its analysis, IDC has quantified the efficiencies for Standard Chartered of using the SAS platform in terms of costs for first developing and deploying and then managing and adapting the models that support its IFRS 9 compliance program. IDC's analysis shows that efficiencies in ongoing maintenance over a period of three years more than offset the initial investment costs of deploying and using the SAS solution (for details, see Figure 1). Not included in this analysis are additional benefits stemming from the ability to efficiently deploy other functional capabilities such as stress testing on the same platform.

FIGURE 1

Five-Year Cost of Achieving and Maintaining IFRS 9 Compliance



Source: IDC, 2018

Developing Models More Efficiently

As Standard Chartered built and deployed over 200 models required for IFRS 9 compliance, the SAS platform helped the company do so more efficiently, especially in the context of the limited time it had to complete these efforts. In particular, Standard Chartered has benefited from having a platform that can hold all modeling metadata and integrate with the company's existing modeling infrastructure. This has helped the company extract results more quickly and thereby build models in a time-effective manner.

Importantly, Standard Chartered has leveraged the SAS solution's capabilities to put in place agile deployment processes for its models, significantly speeding up release frequency and requiring less staff time to carry out deployments. For Standard Chartered, this meant successfully meeting IFRS 9 requirements by January 1, 2018, in a cost-effective manner.

In total, Standard Chartered spent almost two years building and deploying the models required for IFRS 9 compliance. IDC calculates that Standard Chartered completed these activities 17% more efficiently by using the SAS platform as compared with its preexisting process.

Efficient Model Management and Adaptation

With IFRS 9 now in effect, the flexibility of the SAS platform will provide critical efficiencies as the bank recalibrates and changes its models. The solution allows the company to remain nimble in terms of model maintenance and to execute such activities while requiring as little staff time as possible. Standard Chartered expects this to be especially important as the impact of the IFRS 9 regulations comes into view and changes are required.

For purposes of this analysis, IDC has looked at the impact of using the SAS solution over the next three years. IDC projects that the bank's efforts to maintain IFRS 9 compliance, which includes managing, patching, and implementing changes to models, will be about 60% more efficient with SAS than using the preexisting process.

Methodology

IDC conducted several interviews with Crippa and Gelinas to understand Standard Chartered's investment in and use of SAS Expected Credit Loss. IDC used these interviews to gather the information needed to quantify the benefits and investment associated with the organization's efforts to achieve and maintain compliance with IFRS 9 regulations and created a cost-benefit analysis of the results.

IDC used the following steps to conduct this cost-benefit analysis:

- Measure the financial benefits directly resulting from use of the SAS solution, including decreased cost of building and maintaining models required for IFRS 9 compliance.
- Ascertain the total costs for achieving and maintaining IFRS 9 compliance with the SAS Expected Credit Loss platform versus the total costs using an alternative approach as described in this study.
- Project the total costs for both approaches over five years.

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Global Headquarters

5 Speen Street
Framingham, MA 01701
USA
508.872.8200
Twitter: @IDC
idc-insights-community.com
www.idc.com

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