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Oracle Financial Services Stress Testing and Scenario Analytics

Oracle Financial Services Stress Testing and Scenario Analytics empowers financial institutions to define and execute enterprise-wide stress tests and scenario analysis in a well-governed and centralized manner. This not only helps financial institutions to comply with their regulatory stress testing requirements but also carry out ad-hoc impact assessments and embrace scenario analysis as part of their BAU operations & decision-making processes. Stress Testing and Scenario Analytics equips financial institutions with advanced tools to navigate regulatory requirements, drive strategic decision-making, and fortify risk management practices. The platform helps financial institutions leverage sophisticated analytics and scenario modelling capabilities to conduct comprehensive stress tests, assess resilience to adverse scenarios, and optimize capital allocation. With detailed insights into potential risks and opportunities, financial institutions can proactively mitigate threats, seize growth opportunities, and maintain a competitive edge in today's dynamic financial landscape.

Need for stress testing and scenario analysis

Regulatory compliance

In today's heavily regulated banking environment, compliance is non-negotiable. Financial institutions are required to carry out scenario analysis and stress testing as per jurisdictional regulatory requirements and provide corresponding outcomes and results to their regulatory bodies within stipulated timelines in order to maintain compliance. By promptly submitting reports to regulators, financial institutions demonstrate their commitment to compliance and uphold the integrity of the regulated financial system.

Strategic business planning

Building a robust strategic framework is essential for financial institutions to thrive in a competitive market. Through scenario analysis and stress testing, financial institutions evaluate strategic business options under various hypothetical scenarios, such as economic downturns, geopolitical tensions, global market shocks and climate events. This process enables them to identify resilient strategies that align with their long-term vision and goals and take advantage of business opportunities when they arise. Armed with this insight, financial institutions can make informed decisions and chart a course for sustainable growth and profitability.

Key features

- Central management of data, models, calculations and process flows
- Model management & governance covers in-house, Oracle, and third-party models
- Extensible data catalog integrates assets, models, and processes
- Intuitive stress testing & scenario analytics user guided process
- Intelligent process modelling framework auto sequences models and calculations
- Dynamic analytical dashboards integrating risk management and financial planning
- Vendor agnostic framework for models and calculation engines
- Seamless BAU integration of stress testing and scenario analysis

Meet ICAAP and ILAAP requirements

The Internal Capital Adequacy Assessment Process (ICAAP) and Internal Liquidity Adequacy Assessment Process (ILAAP) are critical components of effective risk management in banking. Basel Committee on Banking Supervision (BCBS) and various jurisdictional regulators have emphasised the use of stress testing and scenarios analysis as part of ICAAP and ILAAP. ICAAP and ILAAP require banks to undertake rigorous, forward-looking stress testing that identifies severe events or changes in market conditions that could adversely impact the bank's capital and liquidity position. The Supervisory Evaluation and Review Process requires banks to demonstrate that they are performing internal stress testing and the corresponding results are communicated to the senior management to provide thorough understanding of the material risks that the bank may be exposed to, so as to aid in strategic capital and liquidity planning. By identifying potential vulnerabilities, banks can proactively allocate resources and implement risk mitigation strategies to maintain financial stability and regulatory compliance.

Enterprise risk management

Enterprise risk management (ERM) encompasses the systematic identification, assessment, and mitigation of risks across all facets of a bank's operations. Stress testing serves as a cornerstone of ERM by providing insights into the potential impact of adverse events on the bank's risk profile, profitability, and capital adequacy. Scenarios analysis and stress testing enables financial institutions to understand the impact of extreme but plausible economic scenarios or impeding economic/climate risk events on their customer and investment portfolios, risk profile, profitability, capital position, liquidity position and go-forward business strategies. Stress testing and scenario analytics enables defensive strategies and contingency plans to be prepared and associated impacts to the portfolio mix, business strategy and capital and funding decisions, to be understood if such scenarios arise. By conducting scenario analysis and stress testing, financial institutions can anticipate and mitigate risks, enhancing their resilience to external economic and market factors.

Risk appetite decisioning & risk policy

Establishing a clear risk appetite is vital for financial institutions to effectively steer risk management efforts towards strategic objectives. Financial institutions are constantly evaluating risk factors that they are subject to and define the acceptable tolerance levels for these risk factors, given the strategic objectives they plan to pursue. Stress testing and scenario analysis play a pivotal role in uncovering emerging risk factors within business models or portfolios. This insights-driven approach enables the development of a comprehensive and resilient risk appetite framework that aligns to business plans and strategies.

Regular validation of risk tolerance levels through diverse stress scenarios allows financial institutions to pinpoint deviations and their underlying causes. This facilitates the refinement of risk monitoring parameters, category-specific tolerance levels, and overall risk appetite framework, ensuring adaptive risk management strategies and sustained business resilience.

Enterprise risk monitoring

Proactive risk monitoring is crucial for identifying emerging risks and mitigating potential threats to the financial institution's viability. Stress testing enables early warning triggers to be established based on predefined risk tolerance levels. By continuously monitoring key risk metrics and scenario outcomes, financial institutions can detect deviations from expected performance and take timely corrective actions to mitigate risks and preserve financial stability.

Create decision manuals & play books

Frequent performance of scenarios and stress testing enables financial institutions to gain a deeper understanding of scenario impacts and the corresponding management responses. This process effectively links scenarios with key risk metrics, which in turn are aligned with risk tolerance levels and subsequent management actions or remediation plans in the event of triggers or breaches. Consequently, financial institutions can leverage stress testing and scenario analysis to develop decision manuals or playbooks tailored to multiple scenarios, facilitating swift and informed responses when such situations arise.

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Competitive advantage

Embracing stress testing and scenario analysis not only ensures regulatory compliance and risk management but also confers a competitive advantage. Financial institutions that demonstrate a proactive approach to risk management and strategic planning are perceived as agile, forward-thinking and reliable partners by customers, investors, and regulators. This enhances their reputation and credibility in the market, attracting new business opportunities and talent, and ultimately driving long-term success and sustainable growth.

Key challenges

Ever changing regulations

The ever-evolving regulatory landscape demands sophisticated stress tests and scenario analysis, posing a complex challenge for financial institutions. Adhering to strict regulatory deadlines while maintaining an agile testing process presents logistical hurdles.

Market demands

Dynamic market conditions continually challenge financial institutions, necessitating adaptability to evolving risk factors and variables.

Data quality and availability

Ensuring the availability, quality, reliability, and consistency of data remains a significant challenge. Additionally, the absence of a centralized repository for historical or business-relevant scenarios compounds the issue.

BAU integration with existing systems

- Integrating stress testing with the financial institution's existing data management systems, risk management frameworks, and business processes requires significant effort and resources, potentially leading to implementation delays or disruptions.
- Limited integration of stress testing activities with day-to-day business processes impacts a financial institutions' ability to respond to adverse economic and market events.
- Current frameworks are challenged by manual governance and reporting structures making them ineffective and inefficient.

Right technology enablement

- Stress testing proves to be technology and resource-intensive.
- Current systems lack scenario design and calibration capabilities while proving inadequate when it comes to model management and governance.
- The current frameworks are rigid and lack flexibility thereby restricting business stakeholders from manipulating data, models, and processes as needed to perform stress testing and scenario analysis on a more frequent basis.
- Financial institutions are unable to run enterprise stress tests on demand with a holistic view of impacts across revenue growth assumptions, credit, market and liquidity.

Reporting complexities

Manual-intensive impact assessments and insufficient analytics further hinder day-to-day decision-making processes. Lengthy time to results and inadequate reporting capabilities exacerbate the issue.

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Why choose Oracle's Stress Testing and Scenario Analysis?

Centralized and integrated framework for stress testing & scenario analysis

A centralized scenario management and execution platform to define and manage variables, models, metrics, datasets, orchestration process flows and associate business relevant scenarios (regulatory or otherwise), analysis types, which can be shared, compared and used by business stakeholders across the entire organization.

- The centralized scenario framework allows users to define and create variables, metrics, scenario configurations, business scenarios and such other definitions in a single platform. Scenario definitions are stored in a centralised metadata library, which supports the vast number of requirements for scenario analysis and stress testing across the organization.
- The **in-built data catalog** goes beyond data and provides powerful integration between models, processes, scenarios, and associated results**.** The data catalog enables the stress testing and scenario configuration to be linked to logical business data definitions which in-turn link to data structures that can be imported to the catalog to represent BAU systems and ad hoc data needs. This capability enables logical end to end metadata lineage across data, processes and models used across the enterprise for stress testing and scenario analysis.
- The **Model Management & Governance** component enables users to create, host and manage all enterprise wide models be it in-house, Oracle or third party. The inbuilt model development capability provides support for creation of models through the notebook interface while allowing users to manage the model lifecycle with the necessary oversight and governance.

Easy BAU integration through a guided scenario management process

Intuitive guided processes to create, amend and execute stress tests and scenarios with smart recommendations and automated validation routines, which delivers significant efficiencies to define, schedule and successfully execute enterprise wide scenarios (including what ifs, scenario analysis, stress tests, ad hoc impact assessments, attributions and reverse stress tests etc.). These optimizations and operating efficiencies enable financial institutions to embrace stress testing and scenario analysis as part of their BAU processes and day to day decision making.

- Simplifies scenario management to successfully perform any stress testing and scenario analysis through an **intuitive step by step guided process**.
- Enables **BAU integration** and empowers financial institutions to use of BAU calculation engines, models and datasets for stress testing.
- Provides an **open integration framework** where users can onboard their existing BAU models and calculation engines, including non-Oracle models and engines, to orchestrate stress scenarios and perform impact assessments.
- Supported with **validation routines and auto recommendations** to reduce errors in stress test run configuration, enabling users to create and define stress tests in a shorter time frame with confidence, thereby saving on run time errors and reducing the cycle time to results and decisions.
- Equipped with an **intelligent process modelling** engine, which assists in auto-sequencing of onboarded calculation engines and models across the enterprise, delivering seamless and efficient orchestration based on a single repository of scenarios. This engine harmonizes scenario configurations and associated data requirements, to provide the user with a holistic view of impacts across revenue growth assumptions, credit risk, market risk, operations risk, as well as regulatory driven capital and liquidity impacts.

Strategic insights for informed decision-making

The dynamic dashboard generation coupled with an easy-to-extend analytics capability provides business users with extensive control relating to how they present their stress testing results and impact assessments - enabling a more efficient decision-making process from department to enterprise. This insights capability provides financial institutions with an effective mechanism to drive an integrated, informed, and balanced approach to business strategy, risk management and capital planning.

- Includes a dynamic dashboarding generation framework that helps users to view impact of scenarios on metrics and related calculations without needing to build custom dashboards
- All analytical dashboards derive their data from the scenario management definition associated to a given stress testing execution or impact assessment. These results drive insights that enable data driven, informed and timely decision making by all stakeholders across the enterprise thereby integrating stress testing, financial planning, capital planning, liquidity planning, risk appetite planning, strategic business planning and such other measures that have a positive impact on business, profitability and return metrics.

Key features

- **Central Scenario Management Repository:** A centralized scenario management repository facilitates the definition and management of variables, models, metrics, datasets, orchestration process flows, and business-relevant scenarios. This repository allows users across the enterprise to refer to, share, compare, and utilize essential resources effectively.

- **Model Management & Governance:** The platform is embedded with robust model management and governance capabilities, enabling the creation, inheritance, and management of a suite of in-house, Oracle, and third-party models with ease.

- **Extensible Data Catalog:** Equipped with a data catalog that is extensible to add any datasets be it inhouse, Oracle, third-party or external datasets. The data catalog also features a data assets catalog, model catalog and a process catalog that are seamlessly integrated through an overarching logical business glossary and catalog associations. This not only ensures data harmonization and synchronous perturbation of data elements across the enterprise, but also facilitates scenario orchestrations and automated process sequencing.

- **Intuitive Stress Testing & Scenario Analytics:** Enables a business user to define and execute stress testing and scenario analysis through an intuitive step by step guided process. Equipped with validation routines and automated recommendations, this allows users to create and defined validated stress tests and scenarios, thereby saving on run time errors and reducing the time to results and decisions.

- **Intelligent Process Modelling Framework:** Equipped with an intelligent process modelling engine, which assists in auto-sequencing of onboarded calculation engines and models across the enterprise, delivering seamless and efficient orchestration based on a single repository of scenarios. This engine harmonizes scenario configurations and associated data requirements, enabling maintenance and execution of multiple complex scenarios simultaneously, to assess the impacts, plan actions and develop a solution space or playbooks for a multitude of hypothetical plausible scenarios or historic scenarios.

- **Analytical dashboards:** Dynamical creation of analytical dashboards based on results to drive insights that enable data driven, informed and timely decision making by all stakeholders across the enterprise thereby integrating stress testing, financial planning, capital planning, liquidity planning, risk appetite planning, strategic business planning and such other measures that have a positive impact on business, profitability and return metrics.

- **Vendor Agnostic Framework:** The product presents a Vendor Agnostic Framework that supports registration, scheduling, and usage of existing BAU models and engines, whether Oracle or otherwise.

- **Seamless BAU Integration:** The above set of user intuitive and robust capabilities coupled with capabilities to reliably analyse a holistic view of scenario impacts across revenue growth assumptions, credit risk, market risk, operations risk, capital & liquidity impacts, enables seamless integration of stress testing and scenario analytics into day-to-day operations. This facilitates ad-hoc, frequent, and routine use of stress testing and scenario analytics, empowering organizations to make informed decisions in an agile manner.

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