

Credit Risk Modelling in Psicle

Psicle ('saik/)

Psicle® is a flexible, robust, fit-for-purpose modelling environment with rich statistical, data management and audit functionality, enabling the industrialisation of a wide variety of financial and actuarial processes.

Credit risk models exhibit inherent complexity due to the intricate terms and conditions of the products modelled, the uncertain nature of the predicted cashflows over time and the large data volumes. Building and running these models effectively at scale against different bases and against multiple sensitivities and scenarios is challenging. It requires the implementation of a robust, flexible and scalable solution, capable of handling ever-increasing complexity resulting from associated financial and regulatory requirements.

To be at the forefront of qualifying and managing credit risk, banking institutions will need to rethink their financial reporting governance and control frameworks to ensure their processes are consistent and align with best-practice risk management standards.

Process automation is a powerful and essential consideration when transforming these business-critical processes, and Psicle makes this simple, efficient and scalable.

KEY BENEFITS



End To End Automation capability bringing data preparation and validation, data transformation, future cashflow modelling based on transition probabilities, and reporting into one platform. This would ensure reduced operational risk, time and resource requirements.



Flexibility allowing for the modelling of different products with complex policy terms and conditions and multiple transition states.



Stress and Scenario Testing can be automated and scheduled to run at a convenient time, generating multiple sets of results from a single input of predefined assumptions.



Experience Investigation capability allows identification of drivers of differences between reporting periods (i.e. analysis of change and actual versus expected defaults over time).



Auditability is enhanced through dashboard views and customised outputs at selected points of the calculation process.



Governance is made simple by project sign-off and lock-down, and provision of an automated audit log.



Automated Reporting capabilities to unshackle finance teams from the time commitment of generating reports for regulatory submissions, journal uploads and management reporting.



Driving consistency across teams, products and geographies, and significantly reduces operational risk and errors.



User-friendly interface allowing multiple users to concurrently access and interact with the model.



Speed improvements of end-to-end model run times, freeing teams to focus time on analysis of results.

“ Fast forward to the future:
7 days to 7 seconds. ”

KEY TECHNICAL FEATURES

Automation in Psicle

Psicle® provides a platform to manage and monitor full end-to-end financial and actuarial processes across data import, data transformation, modelling and reporting, all within one user-friendly platform. It provides flexibility to handle multiple product-specific complexities and maintain consistency between processes in a well-governed environment.

With our track record of insurance process transformation, we are well-positioned to facilitate change in the banking industry, employing Psicle to overcome the limitations of legacy processes that are inflexible, difficult to integrate, and reliant on outdated technology. To ensure banks have comfort in knowing they are prepared for a technology-led future where their teams can focus on applying critical thinking, respond to emerging risks, and provide strategic advice.

Data Validation and Transformation

Psicle integrates easily with existing data warehouses, ledgers and reporting systems and can be used to:

- Import data from various sources providing a seamless integration to existing systems.
- Seamlessly customise data validations and manipulations, and create automated data reconciliations against alternative reports and systems.
- Create personalised reports and dashboards to ensure data integrity and enable exploration of data using key driver analysis.

Cashflow Modelling Flexibility

Psicle provides a user-friendly, efficient and flexible platform to:

- Perform complex multi-state transition modelling using powerful statistical calculation engines.
- Model complex policy terms and conditions with the calculation engine to produce expected future cashflows, including instalments, interest rates, initiation fees, monthly fees etc. based on dependent or independent transition rates.

Scenario and Sensitivity Analysis

Scenarios can be designed and run in a user-friendly and automated way using global parameters and the batch manager's functionality. This is useful for:

- ICAAP and other regulatory disclosures,
- Assisting in business planning e.g. as input to budgeting and forecasting processes,
- Varying the period of historic data considered in setting probabilities of default in ECL modelling,
- Varying the number of future periods considered as 'lifetime' in ECL modelling,
- Varying the weightings assigned to different economic scenarios in Forward Looking Information (FLI) modelling etc.



Analysis Between Valuation Periods

Experience investigation capability gives users the ability to monitor and analyse their complex financial processes by:

- Identifying the key drivers influencing the movements between two valuation periods (e.g., arrears balances, rescheduling/restructuring volumes, seasonality, etc.) by running the model on different combinations of prior and current assumptions and data points, and calculating the associated impact of updating each respective assumption or data point.
- Automating the comparison of expected or budgeted losses in the previous valuation period to actual losses in this valuation period to understand model accuracy.
- Creating interactive diagnostics offering dynamic visualisation of a range of chart and table options, enabling drilldowns, cross-filtering, flexible formatting and layout management.

Governance and Auditability

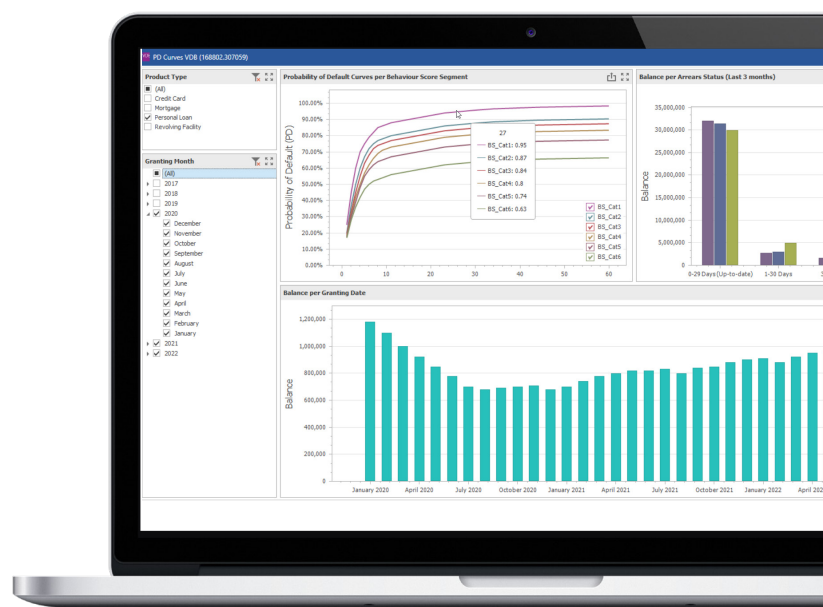
Controls and investigations of model changes reduce human errors and neglect and are simplified by:

- Detailed log functionality to easily track, restore and report on changes in the model or assumptions.
- User permission and workflow management to restrict, approve and sign-off calculations, including full and partial model lockdown.
- Notes functionality to provide narrative around the model or against specific data objects within the model.

Reporting

Time consuming regulatory submissions, journals and management reports can be automated as:

- Outputs can seamlessly feed downstream Psicle models or export to a range of other software packages. This is complemented by flexible reporting functionality, including population of pre-defined Excel templates, output of visualisations and configurable links to a wide range of downstream reporting systems.
- Additional reports and dashboards can easily be added to the process.



The Psicle platform

Psicle is the primary modelling platform across a growing range of geographies and financial services use cases, including business planning, pricing, provisioning and reserving, capital modelling and reporting.

Psicle is a server-based application that can be hosted in the cloud or on-premise, and leverages the latest technology stacks.

Implementation

Dynamo's consulting team has deep and varied experience in technology-enabled process transformation, including target state process design, technical model development, independent reviews of processes and driving cultural change. Our clients span the globe, including the United Kingdom, United States, Bermuda, Canada, Australia & New Zealand, Hong Kong, Nordics, Southern Africa and the Middle East.

We offer various support options to suit each project's scale, timelines and resource availability. Throughout implementation and beyond, our consulting and technical support teams stand ready to make your program a success.

Integrations

Psicle integrates easily with existing systems, including on-premises and cloud data stores, ledgers, reporting systems and visualisation packages



Data

Psicle can read or write directly to relational database storage platforms, including MS SQL, Amazon Redshift, Oracle or via drivers provided by other software providers enabling ODBC connections.



API

Psicle has its own API that can be called to run batched processes configured by edit users of the software and return results to other software via standard restful API calls. Psicle also integrates with other web APIs with minimal bespoke configurations.



File-based transfer

An automated process for reading and writing data files from network locations can be enabled via the batch process module.

“ We transform business-critical algorithms into automated, robust, and efficient end-to-end processes. ”

About Dynamo

Experience, expertise, and service. All part of our DNA.

We are actuaries, problem solvers, and strategic thinkers. As a highly innovative team, we are passionate about understanding how the world of business-critical modelling is evolving, and how organisations need to adapt. We apply our mathematical skills, professional expertise, and intelligent automation platform to help our clients navigate their transformational journey with confidence. Brilliant at building relationships and driving change through innovation and a culture of teamwork, we deliver robust, insightful solutions to modernise and industrialise a client's technical models and processes. We give clients greater certainty in increasingly complex times.

For further information on Dynamo and Psicle, including case studies, visit www.dyna-mo.com or email us at psicle@dyna-mo.com

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