

# ASIC Regtech Responsible Lending Demonstration Webinar

Responsible Lending Review Tool  
20<sup>th</sup> August 2020

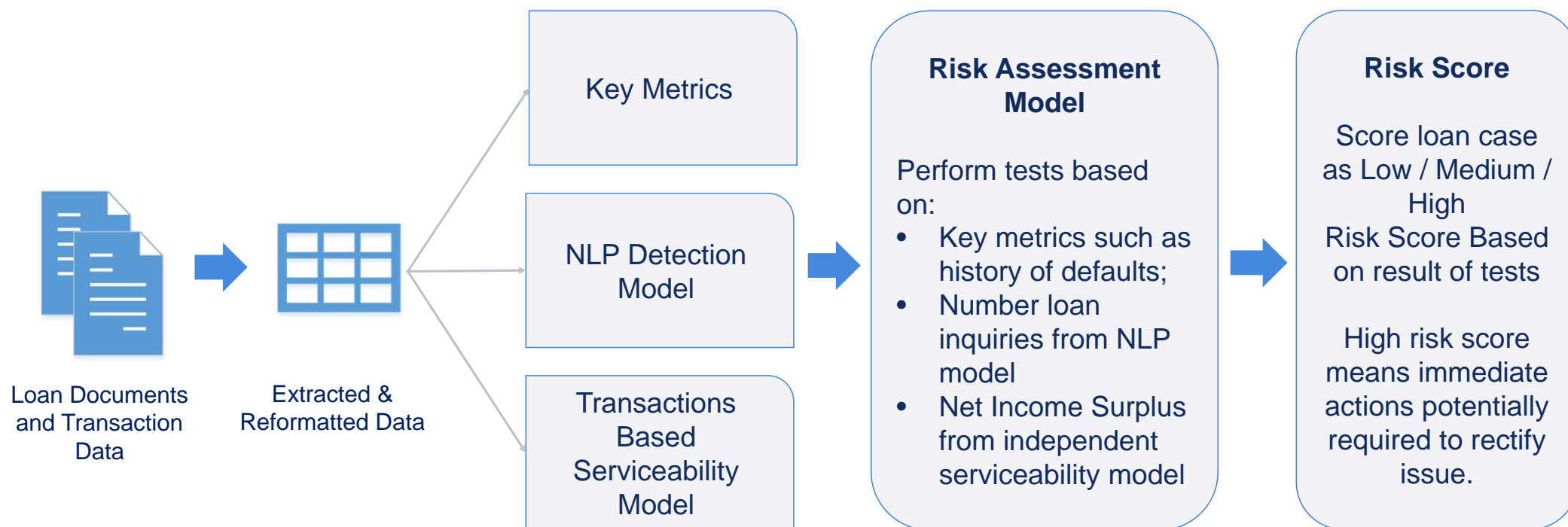
# Agenda

- 1.Challenges
- 2.Demo of Solution
- 3.Loan File Review
- 4.Key Considerations

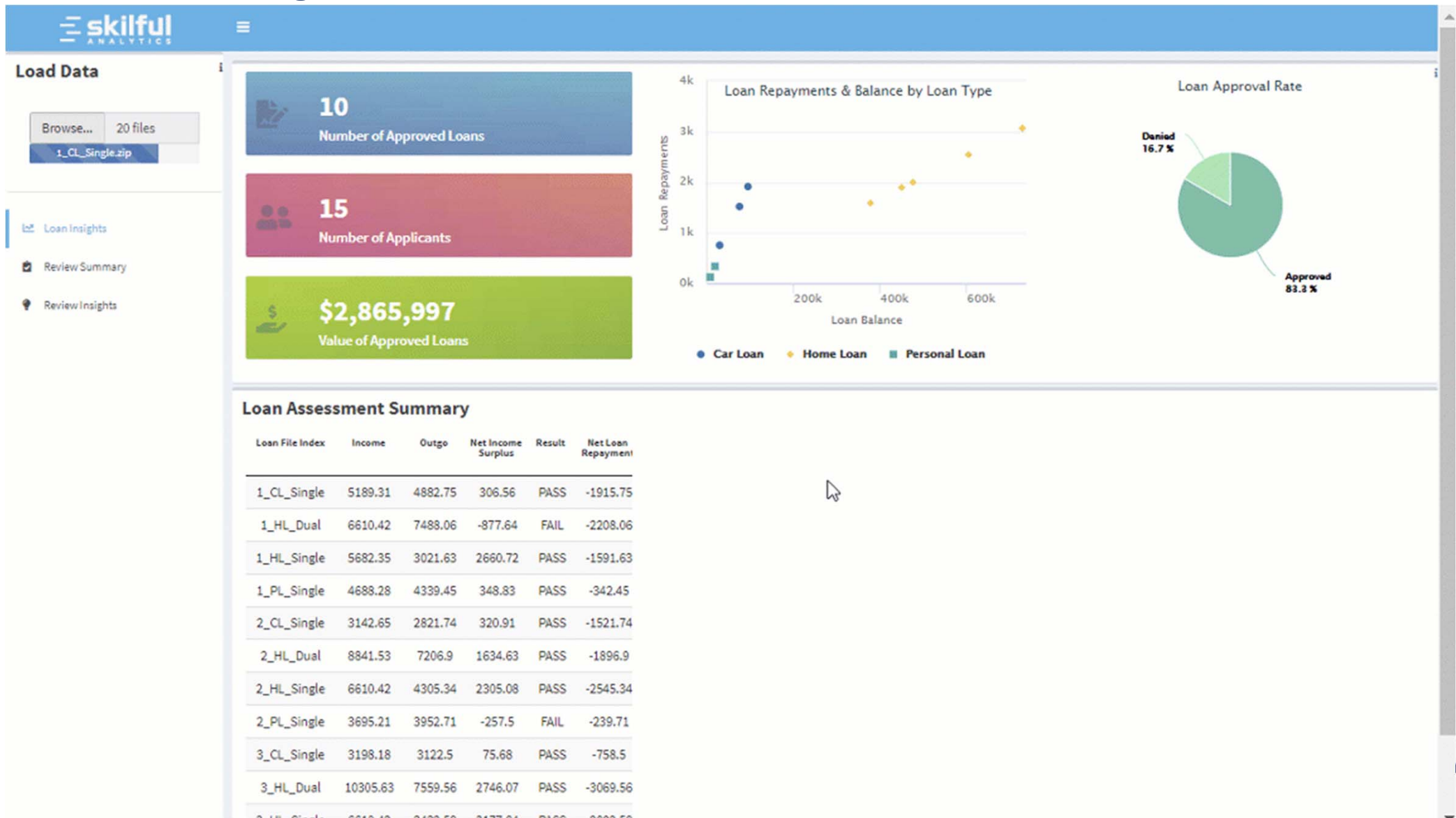
# Challenges



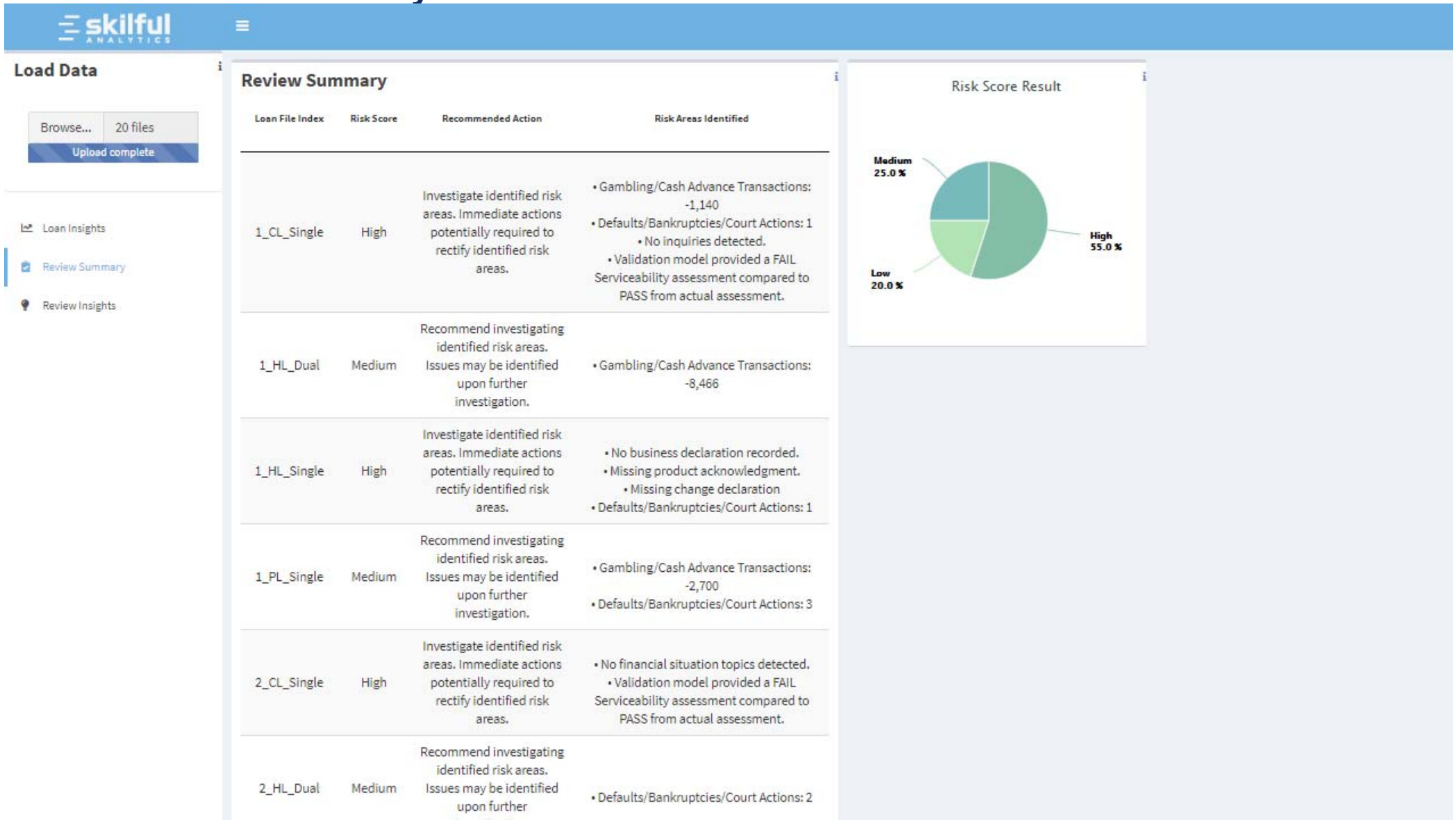
# Loan File Review – Model Overview



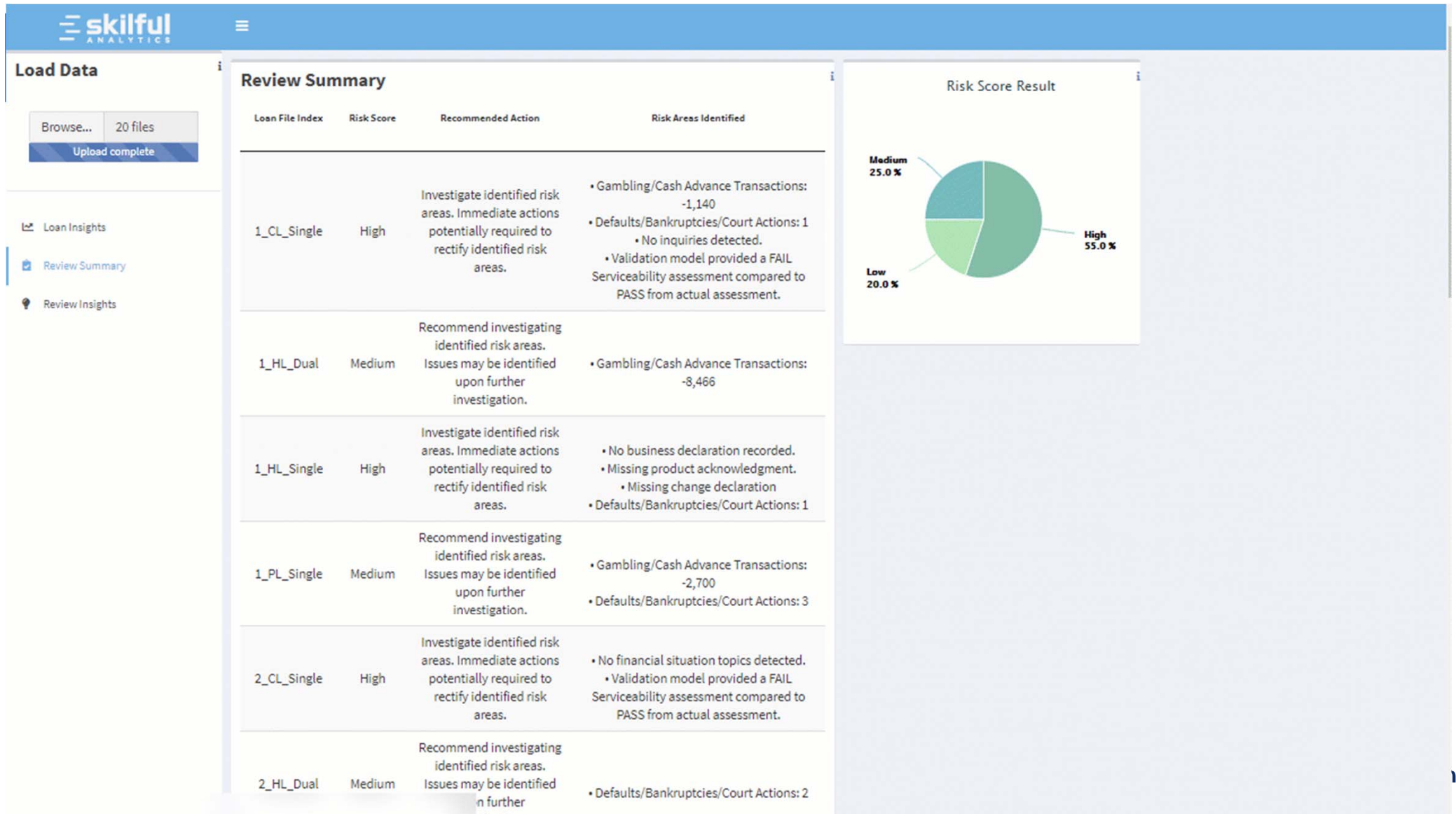
# Tool - Loan Insights



# Tool – Review Summary



## Tool – Review Insights



# Model Overview – Technical Note

## Alternative Data Sources

- Used of publicly available merchant code mapping to map transactions into categories
- Considered benchmarking data but did not incorporate:
  - Household Expenditure Measure
  - ABS Census Data at Mesh Block level
  - ATO postcode level data

## Open Architecture Style

- Developed using open source tools and libraries
- Advantages:
  - Blend components that is optimal for use case
  - Benefit from pool of resource within open source community as well as commercial support
  - Experiment with the latest AI/ML research

## NLP Model

- Trained 2 NLP models to:
  - 1) Recognise sentences relating to inquiries
  - 2) Recognise loan topics such as loan purpose, savings habit, spending habit within a sentence.
- For purpose of illustrating NLP model we replicated training data to a sufficient level.



# Synthetic Loan File Review – Alice – Personal Loan (3\_PL\_SINGLE)

High Risk Score

## Actual Assessment

Net Income Surplus = **+\$1188**  
**PASS**



## Model Assessment

Net Income Surplus = **-\$137**  
**FAIL**

Applicant identified Other expenses of **\$380** per month

Broker inquired to confirm it relates to cash withdrawals but did not inquire about the reasonableness of estimate.

Transactions data revealed average cash withdrawals of **\$1610** per month.

NLP model detected inquiry.

**Broker cannot demonstrate they have made the necessary enquiries to understand if the consumer can make repayments**

# Synthetic Loan File Review – Alexia– Home Loan (5\_HL\_SINGLE)

## Lender Checklist Form Screenshot

### Business Purpose Declaration

Will the loan be predominantly used for a business purpose?

☐

### Foreseeable Changes

Do the applicant(s) anticipate or plan on any changes in their life that will make it harder to make their repayments?

Y

If yes, do the applicant(s) expect the change to occur in the next 3 years?

☐

If the change is within 3 years, what change are the applicant(s) anticipating?

Examples include: *Extended unpaid leave, End of contract/loss of employment, Reduced income, Retirement, Leaving employment, Medical treatment/illness, Increased debt repayments, Large expenditure*

- No business declaration recorded.
- Missing details of negative changes.

**Missing evidence on assessing suitability triggered High Risk Score**



High Risk Score

## Lender File Note Screenshot

### Correspondence with applicants

Date of correspondence (DD/MM/YYYY)	Form of correspondence (Face to Face, Phone, Email)	Notes
		No further contact made

- No inquiries detected.

**NLP Model correctly classified sentence as not related to inquiry.**

# Synthetic Loan File Review – Alexia – Home Loan (5\_HL\_SINGLE)

## Actual Assessment

Net Income Surplus = **-\$130**  
**FAIL**



## Model Assessment

Net Income Surplus = **\$1509**  
**PASS**

Expense	Expense Estimate Disclosed by Applicant	Expense Estimate Using Transaction Data
Property/housing expenses (incl. utilities)	420	156
Communications	160	125
Groceries	410	113
Recreation and Entertainment	280	196
Clothing and personal care	300	296
Medical and Health	280	74
Transport	350	178
Education & Child (incl maintenance)	300	115
Insurance	390	145
Other	330	168
<b>Total</b>	<b>3220</b>	<b>1567</b>

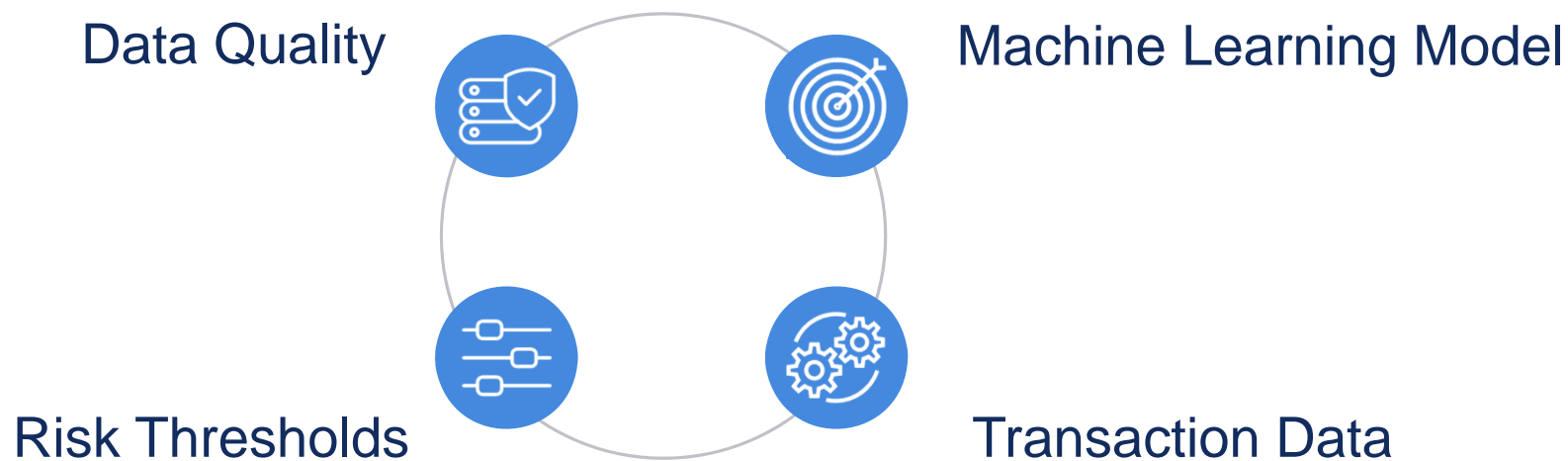


Transaction data suggests expenses overestimated by applicant.

**Loan may have passed serviceability assessment.**

**Broker cannot demonstrate that they have gathered enough information before making the loan assessment**

# Key Considerations



# Contact Details

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