QCASH Financial

A Credit Union Service Organization

2017 AXFI Conference

The Business Use of Data Analytics: What is the ROI and how to achieve it

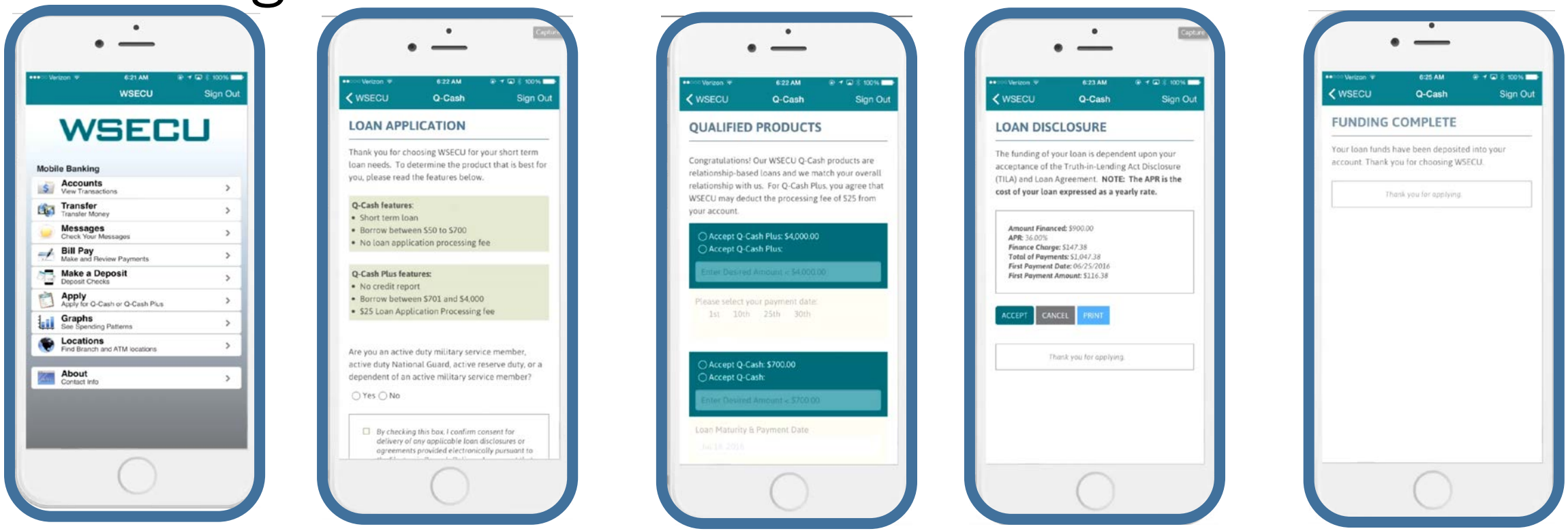
QCash Financial LLC, digital innovation platform

Overview:

QCash Financial platform architecture is designed for digital innovation by leveraging cloud, mobile, social, data/analytics.

Digital small dollar lending [BORROW] is our lead solution.

QCash Financial LLC, digital small dollar lending: 6-clicks in 60-seconds



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Business Use Case: Loan Underwriting

Business Problem: How can we meet market expectations for access, speed and eliminate all costs and overhead in doing small dollar lending?

Approach: Assess and map the member journey; remove preexisting barriers and arbitrary self-imposed limitations; leverage data to manage risk.

Results: A multi-channel platform that leverages relationship data in managing underwriting risk and delivering a fully funded loan in 60-seconds.

Client Case Study: A $2.5b CU obtains 11% margin on the product; product contributes 10 bps to ROA in 2016.

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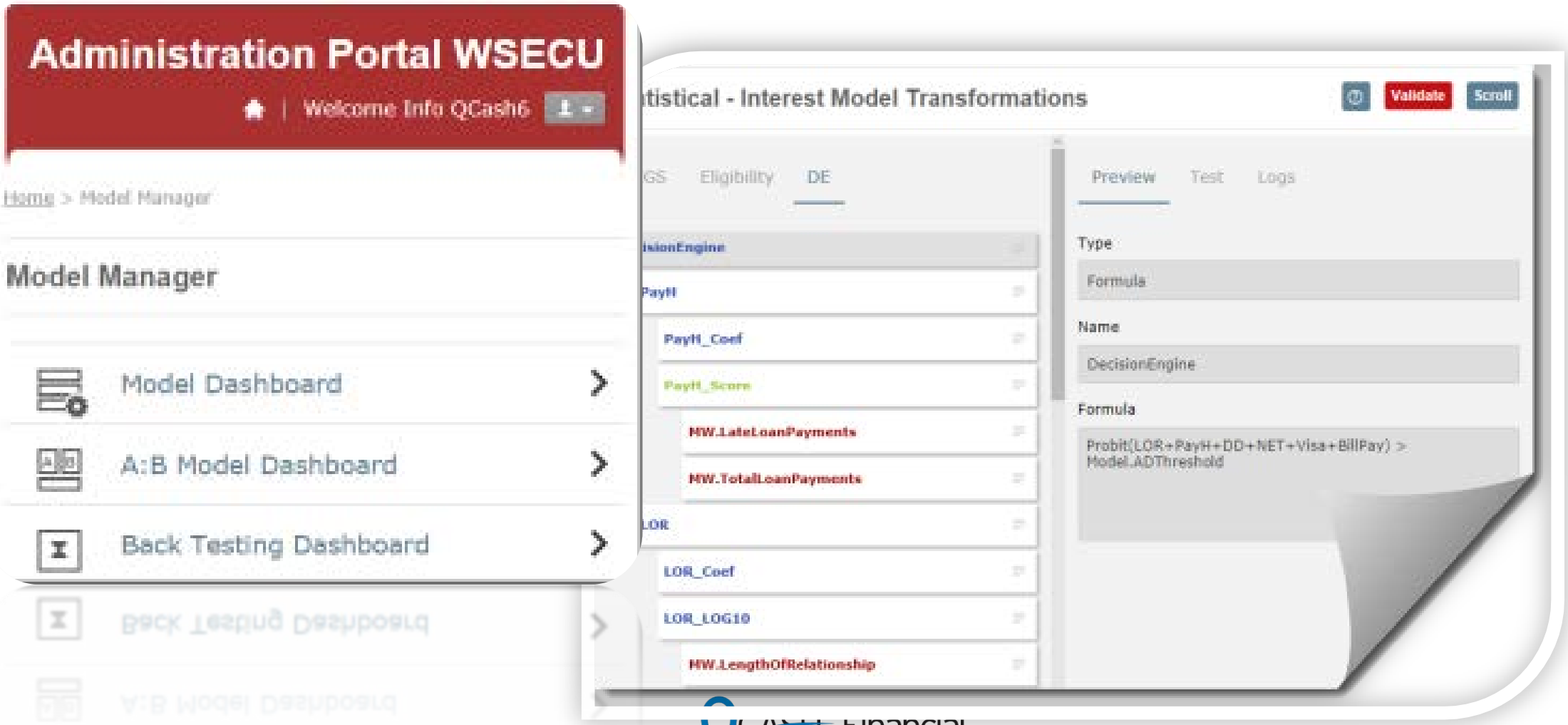
Statistical Model Management



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What is the ROI and How to achieve it?

- Focus on solving business problems first
- Find some low-hanging fruit with low risk (like small dollar lending)
- Build business line awareness and knowledge on your journey
- Stop talking and start doing

Contact Info:

Name: Ben Morales

Email: bmorales@q-cash.com

Phone:360-754-6130

Website: www.q-cash.com

Name: Jeff Terrell

Email: jterrell@q-cash.com

Phone: 1.800.893.7893

Website: www.q-cash.com

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Modeling Alternatives for CECL: Comparisons from US Mortgage

Results presented are from the Deep Future Analytics CECL Study sponsored by

OnApproach

Joseph L. Breeden, PhD is the principle investigator for the study.

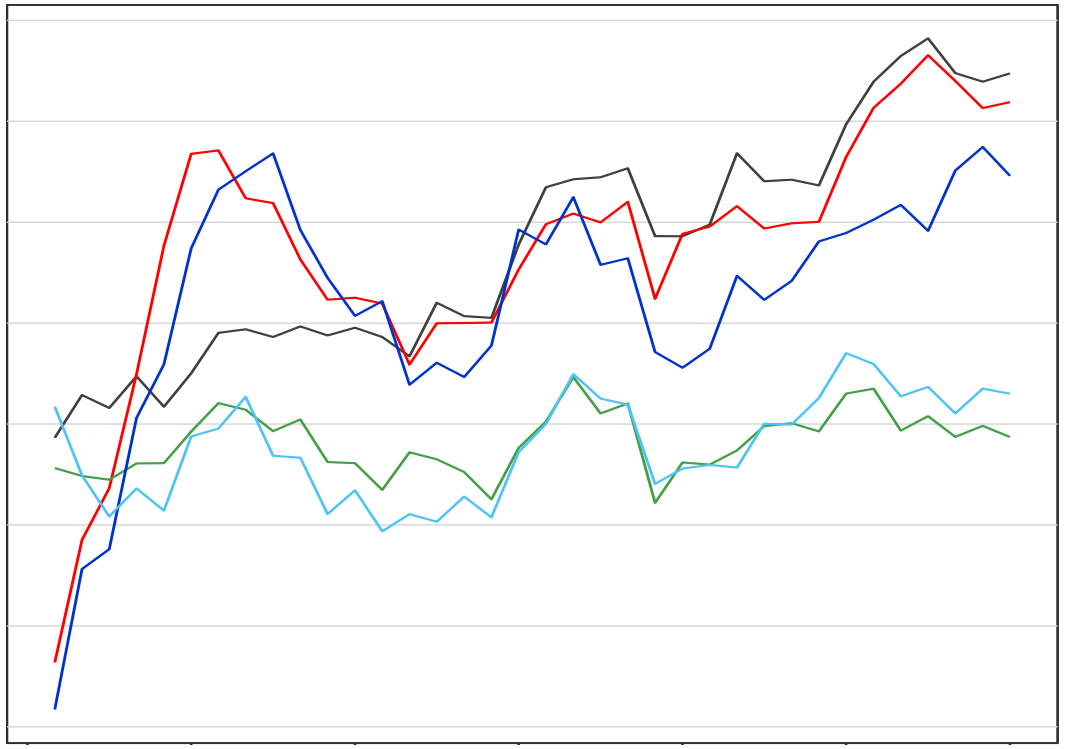
In-sample Accuracy

Cumulative in-sample accuracy over each time period using actual economic history.

Model	Jan 2007 – Dec 2009	Jul 2010 – Jun 2013	Jan 2012 – Dec 2014	Avg Absolute Error
Historic Average	-69.1%	54.1%	65.7%	63.0%
Historic Average by geography	-70.4%	54.3%	62.7%	62.4%
Time Series	11.2%	-28.7%	-12.5%	17.4%
Time Series by geography	19.4%	-26.1%	-12.9%	19.4%
Roll Rate	27.0%	-25.0%	-11.7%	21.2%
Roll Rate by geography	25.8%	-16.7%	-4.5%	15.7%
Vintage	3.6%	3.3%	1.9%	2.9%
Vintage by geography	1.2%	1.2%	1.5%	1.3%
State Transition	7.8%	11.1%	-1.3%	6.7%
State Transition by geography	-6.2%	12.5%	0.0%	6.3%
APC Scoring	-0.5%	4.5%	3.5%	2.8%
APC Scoring by geography	-3.8%	4.2%	2.9%	3.6%

Error by Forecast Horizon

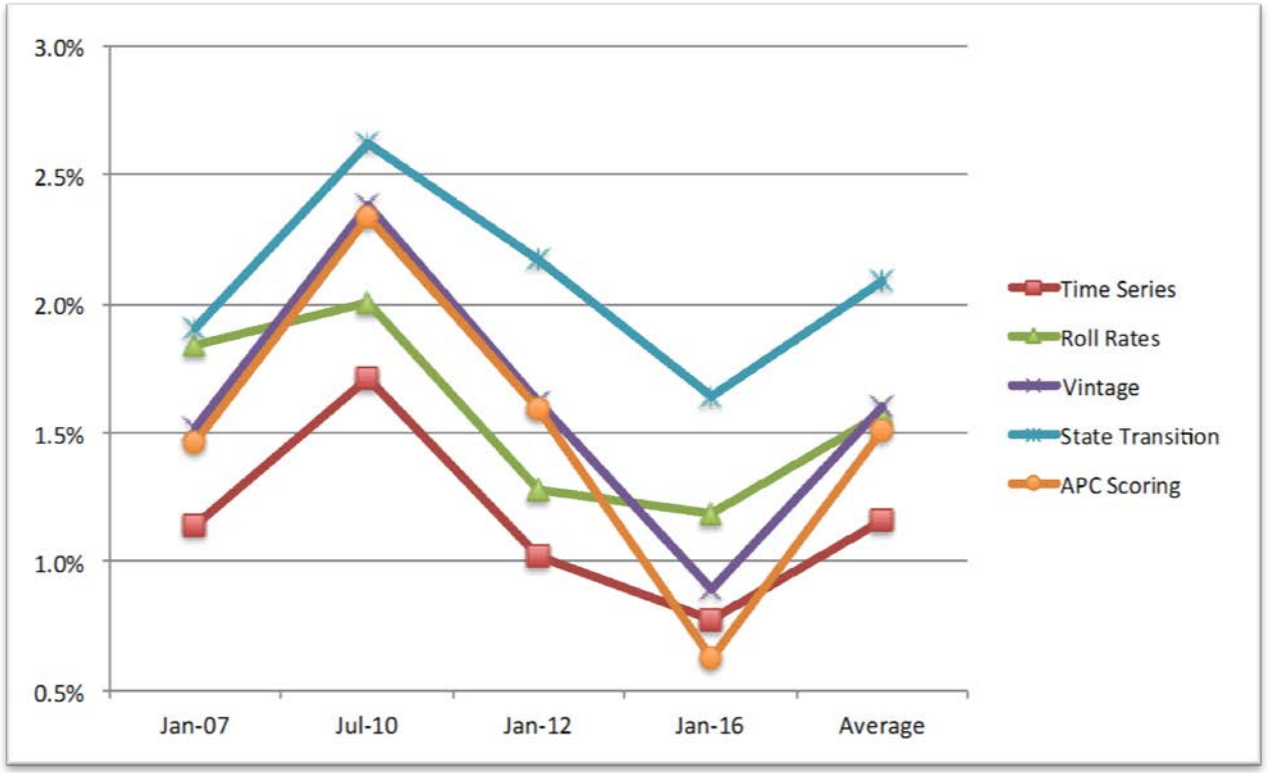
- Vintage and APC Scoring models have better long-term performance.
- Time series models are initially weak and deteriorate further from there.



on by states Survival by states

Lifetime Forecast Values

- Time series models consistently had the lowest estimated lifetime losses.
- State transition models had the higher estimates.
- Historic averages (not shown) were by far the highest.



FAS 5 (ASC 450-20) vs. CECL

- The increase in loss reserves, averaged across the economic cycle, is ~**300%**.

Increase in loss reserves under CECL's lifetime loss calculation					
Calculation	Segment	Jan-07	Jul-10	Jan-12	Through-the-Cycle Avg
Lifetime Loss	Subprime	512%	73%	49%	211%
(no discount)	Prime	1219%	95%	39%	451%
	Superprime	1933%	160%	27%	707%
	Total	896%	91%	41%	343%
DCF	Subprime	423%	42%	32%	166%
	Prime	1032%	61%	21%	372%
	Superprime	1019%	92%	-14%	365%
	Total	742%	57%	22%	274%

Model Comparison Summary

- A quick summary of the strengths and weaknesses of the models tested.

	Historic Average	Time Series	Roll Rate	Vintage	State Transition	APC Score
Accuracy, 3yr	●	●	●	●	●	●
Accuracy, 6m	●	●	●	●	●	●
Robustness	●	●	●	●	●	●
Complexity	●	●	●	●	●	●
Computation	●	●	●	●	●	●
CECL Estimate	↑	↓	–	–	↑	–
CECL Volatility	↑	↓	↓	↑	–	↑