COUNTY OF Riverside
HUMAN RESOURCES
Winner IPMA Award for Excellence

Unproctored Testing Upgraded:
Utilizing Cognitive Ability and Personality Tests
in an Unproctored Environment

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Objectives

- Background
- Unproctored Testing
- Evolution of UT at Riverside County
  - Old model
  - County-wide validation study
  - New model
- Conclusion
- Q & A

County of Riverside
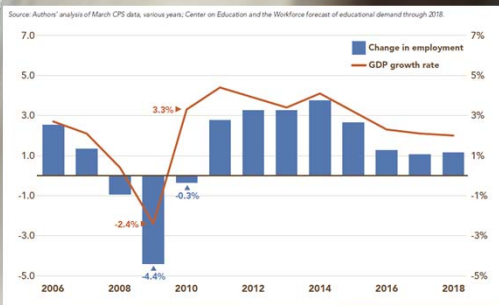
The County of Riverside:
Beyond Your Expectations

➡ Over 18,000 employees

➡ We are the largest employer in the area.

7,300 square miles
26% population growth since 2000
Population over 2 million

Unproctored Testing

Why did we go unproctored?

Unproctored Testing

STOP

Potential Risks
- Cheating
- Tester identity verification
- Test content exposure
- Unstandardized testing environments
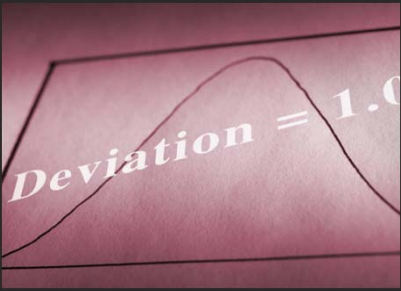- End-user technical issues

GO

Potential Benefits
- Reach larger and more diverse applicant pool
- Reduced travel cost for candidates
- Reduced staffing cost for Assessment Center
- Reduced recruitment time/cost
- "Cutting Edge" Image

Unproctored Testing Solution
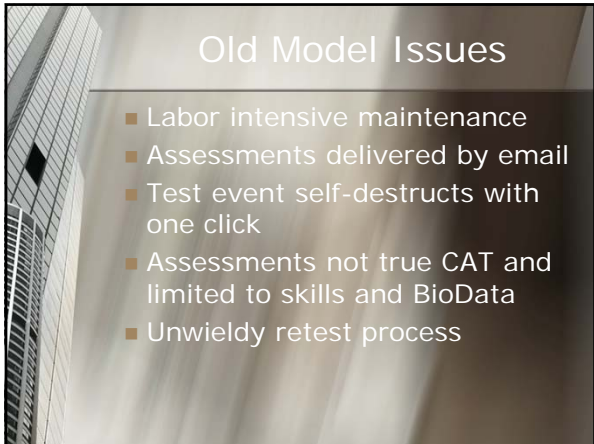
✓ *Mitigating the Risks*

- Computerized Adaptive Testing (CAT), BioData, Personality, Typing
- Required resume submission
- Use of applicant identifiers
- Low-stakes testing
- Traffic and tracking are monitored by internal servers

- Test vendor has built in security measures
- Used as 1st hurdle only
- All job offers are contingent upon test score verification
- Proctored testing an option

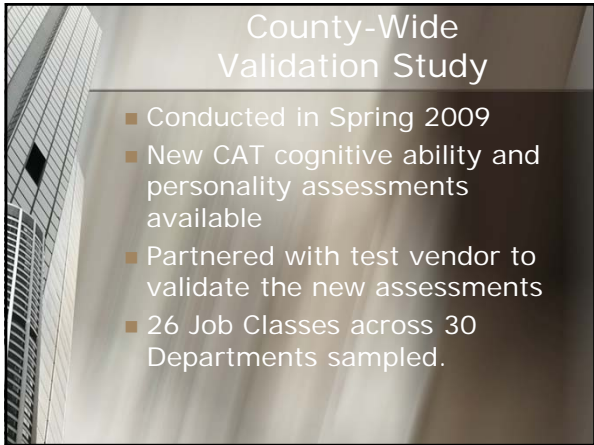## Evolution of UT at Riverside County

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Old UT Model

- Quasi-CAT assessments
- Unproctored testing by position
- Internal servers deliver test events monitor retest attempts
- Unique identifier based on email
- Score verification obtained by full retest and evaluated against SEM confidence interval
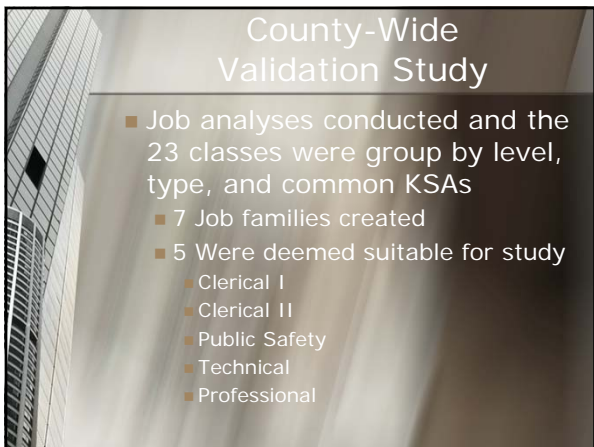
Old Model Issues

- Labor intensive maintenance
- Assessments delivered by email
- Test event self-destructs with one click
- Assessments not true CAT and limited to skills and BioData
- Unwieldy retest process

County-Wide Validation Study

- Conducted in Spring 2009
- New CAT cognitive ability and personality assessments available
- Partnered with test vendor to validate the new assessments
- 26 Job Classes across 30 Departments sampled.

County-Wide Validation Study

- Job analyses conducted and the 23 classes were group by level, type, and common KSAs
  - 7 Job families created
  - 5 Were deemed suitable for study
    - Clerical I
    - Clerical II
    - Public Safety
    - Technical
    - Professional

Proposed Assessments

- Proposed assessments were administered to candidates by email
  - Global Cognitive Index (GCI)
  - PreVisor Computer Adaptive Personality Scales (PCAPS)

GCI

- Measures four separate components of cognitive ability
  - Verbal Ability
  - Quantitative Ability
  - Deductive Reasoning
  - Inductive Reasoning

PCAPS

- General assessment of normal adult personality with a focus on workplace applications
- Alternative item type to reduce opportunity for faking
  - Forced choice
- Dynamic presentation of items
  - More suitable for unproctored testing
- Composed of over 2500 statements designed to measure a comprehensive taxonomy of personality
- Measures 13 dimensions:

Achievement	Sociability	Collaboration
Composure	Flexibility	Confidence and Optimism
Reliability	Thoroughness	Sense of Duty
Independence	Self Development	Influence
Innovation		

Performance Evaluation

- Managers completed a comprehensive online performance evaluation for each participant
  - Evaluations included 21 performance dimensions
    - Subset of 5 cognitive performance dimensions
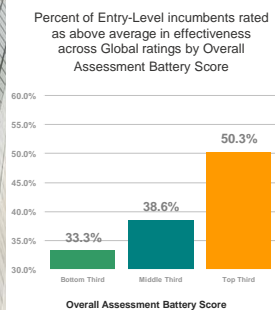 - Four global performance ratings
  - One composite score

Estimated Validity
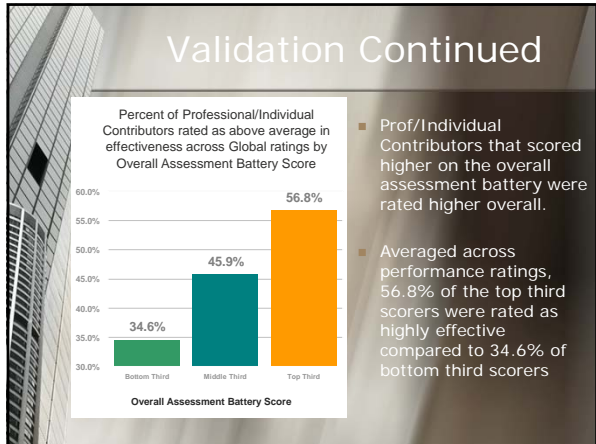
Results for recommended test batteries

	Criterion Measure							
	Performance Area Composite		Cognitive Performance Area Composite		Overall Global Composite		Total JPR Composite	
	Obs.	Corr.[a]	Obs.	Corr.[a]	Obs.	Corr.[a]	Obs.	Corr.[a]
EL: GCI-Quant, GCI-Verbal + 7 PCAPS	.29**	.37	.38**	.49	.26**	.34	.28**	.36
PIC: GCI-Deductive, GCI-Quant + 4 PCAPS	.24**	.31	.28**	.36	.23**	.30	.25**	.32

[a]Correlation after correction for reliability in the criterion, using ryy = .60
Components within the composites are optimally weighted
**p < .01, *p < .05, ^ p < .10

Validation Continued

Percent of Entry-Level incumbents rated as above average in effectiveness across Global ratings by Overall Assessment Battery Score

- Entry-Level Incumbents that scored higher on the overall assessment battery were rated higher overall.

- Averaged across rating areas, 50.3% of the top third scorers were rated as highly effective compared to 33.3% of the bottom third scorers.

Validation Continued

Percent of Professional/Individual Contributors rated as above average in effectiveness across Global ratings by Overall Assessment Battery Score

60.0%	
55.0%	56.8%
50.0%	
45.0%	45.9%
40.0%	
35.0%	34.6%
30.0%	Bottom Third Middle Third Top Third

Overall Assessment Battery Score

- Prof/Individual Contributors that scored higher on the overall assessment battery were rated higher overall.

- Averaged across performance ratings, 56.8% of the top third scorers were rated as highly effective compared to 34.6% of bottom third scorers

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Adverse Impact?

- Cognitive ability assessments are known for having adverse impact
- GCI test scores are weighted and combined with PCAPS to reduce the potential for adverse impact
- Using the four-fifths (or 80%) rule, no adverse impact was observed from the validation data

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New UT Model

- True CAT assessments
- Unproctored testing by *job family*
- Vendor servers deliver test events monitor retest attempts
- Unique identifier based on static personal information
- Score verification obtained by CAT "ConVerge" session
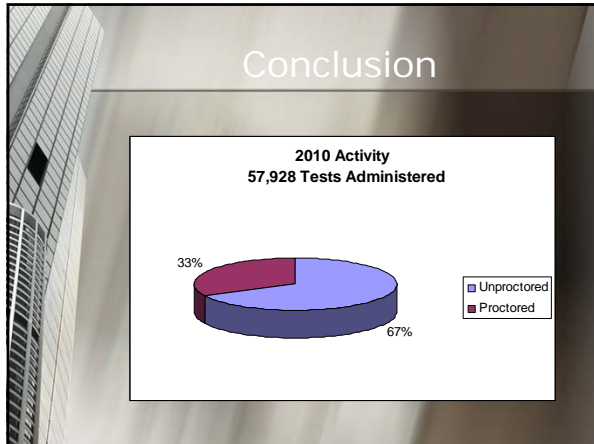
New Model Benefits

- Testing system maintained primarily by vendor
- Assessments delivered by hyperlink
  - Reusable or single-use
- Test event may be exited and re-entered
- Superior re-test control
- Assessments are true CAT and include cognitive ability and personality
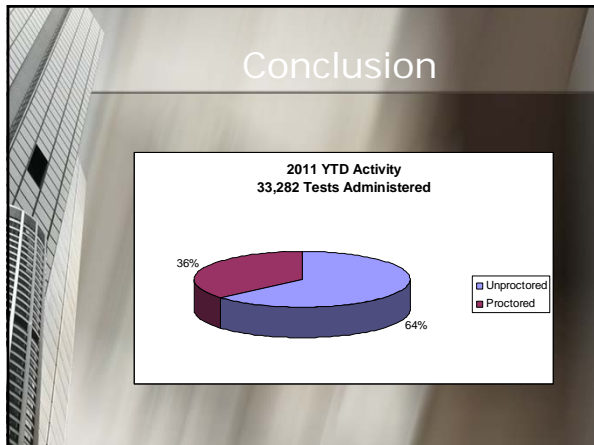- Accurate and streamlined retest process

Conclusion

- Unproctored testing program was improved in multiple areas
  - More powerful assessments
  - More cheat-resistant assessments and assessment system
  - Better validation documentation
  - More efficient tech support
  - More opportunities for candidates
    - One test score may be used for all positions within job family
  - Improved candidate experience

Conclusion

- UT is not going away
- Our overall experience with UT has improved with advancements in technology
- UT assessments may be utilized for an increasing number of positions
- High volume testing is now as simple as posting a link...

Conclusion

2010 Activity
57,928 Tests Administered

33%
67%

- Unproctored
- Proctored

Conclusion

2011 YTD Activity
33,282 Tests Administered

36%
64%

- Unproctored
- Proctored

Next Steps

- Analyze archival performance data to compare old model vs. new model
- Utilize UT for more positions
- Integrate testing platform with new web-based ATS
- Continue to monitor for adverse impact