



Empirical Data Models for Selecting and Prioritizing SUT Field Audits

FTA Technology Conference
Chicago, Illinois
August 10-13, 2008

FTA Technology Conference – Chicago IL, 2008

Introductions



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Decision Analytics
 - Revenue Solutions, Inc (RSI)



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Executive Summary



- Results: Who to audit?
 - CT-DRS predictions >44% for high dollar per audit hour assessments for discretionary SUT field audits, compared to prior 11% to 17%.



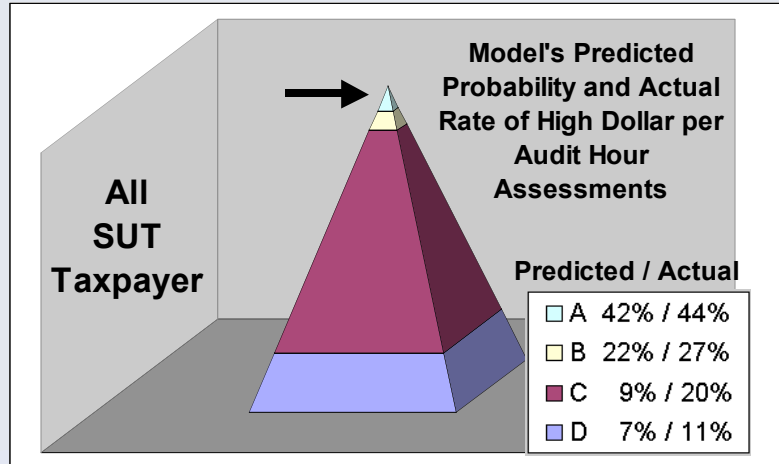
Executive Summary



- Results: Who **Not** to audit?
 - CT-DRS predictions >90% for low dollar per audit hour assessments for discretionary SUT field audits.



▪ Stratifying Audit Candidates



▪ Results: How is the model being used?

- Prioritize audit selections
- Identify previously unnoticed high potential audit candidates
- Avoid potentially unproductive audits
- Quicker reviews for Tax Clearances



Executive Summary



- **Additional components:**
 - A detailed warehouse table consolidating each T/Ps tax and audit data alongside their score
 - Research tools to select and view query results
 - DRS developed grading system for RSI Scores
 - Audit budget hours
 - Bundle builder for out-of-state audits trips

Examples of Familiar Empirical Data Models



Credit Scores



Insurance Risk Ratings



Value of used cars as Described by used car Pricing guides.



Key Data Items



- Year
- Make
- Model
- Mileage
- Condition
- Region



Data Model

= Value

What's it take to build & implement a model?



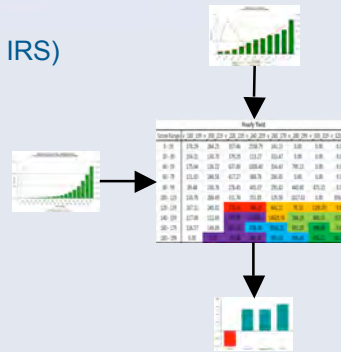
- Access to lots of relevant data
- Audit, Selection, & IT participation
- Technical math & computer skills
- Policies, culture & centralized selection
- Buy in from managers & auditors



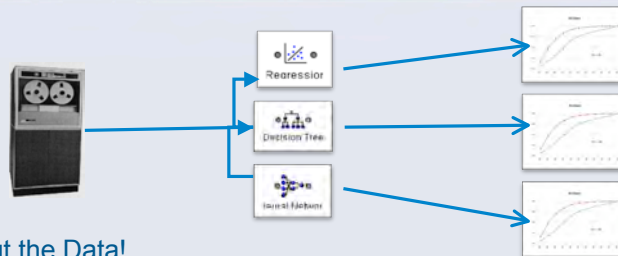
Decision Analytics Experience – Connecticut



- Sales and Use Tax Audit Modeling
- Data in Data Warehouse (ITAS and IRS)
- 2 primary models
 - \$400+
 - Population similarity
 - A1, A2, ..., B1, B2, ...
- 3 further models
 - A – underreported sales tax
 - B – use tax
 - C – uncollected sales tax



Differentiators – Data



- It's about the Data!
 - Standard code to extract data
 - Standard schema / standard code / slices & dices "at the touch of a button!"
 - Bayesian approach to generating new variables
 - Insights into new data patterns
 - Measure predictive content of analysis database
 - Remove highly correlated variables from database
- Better data = better models

Decision Analytics - Summary



- Decision Analytics is an Enabler!
 - Enables pro-active action
- Information is Main Constituent of Stronger Models
 - More information from the same data
- Decision Analytics Enables Many Benefits
 - Productivity, customer service, etc.
- Action Must be Taken to Realize a Benefit

Revenue Solutions, Inc.



Mission Statement

“Assist revenue agencies to maximize collections, increase compliance, improve customer service and streamline operations through the use of enabling technologies, in particular, integrated tax and tax data warehouse solutions”



www.RevenueSolutionsInc.com

- Incorporated in May 1996
- Headquartered in Pembroke, MA and offices in Roseville, CA (Solution Center) and Raleigh, NC
- Dedicated exclusively to providing products & services to tax and revenue agencies
- Deep tax administration domain expertise



Questions and Contact Information



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