

Moderator: Craig Jeffery, Managing Director, Strategic Treasurer LLC

Panelists:

- Randall Durling, Director of Int'l Finance, The Boeing Company
- Tracy Stover, Managing Director, Citi
- Jeanne Ewing, Manager, Accts Payable, Continental Airlines
- Frank Fiorille, Director of Enterprise Risk Mgmt, Paychex, Inc
- Jiro Okochi, CEO, Reval

# Tool of the Year

*Treasury & Risk's 12th annual*

alexander hamilton  
BEST PRACTICES SUMMIT

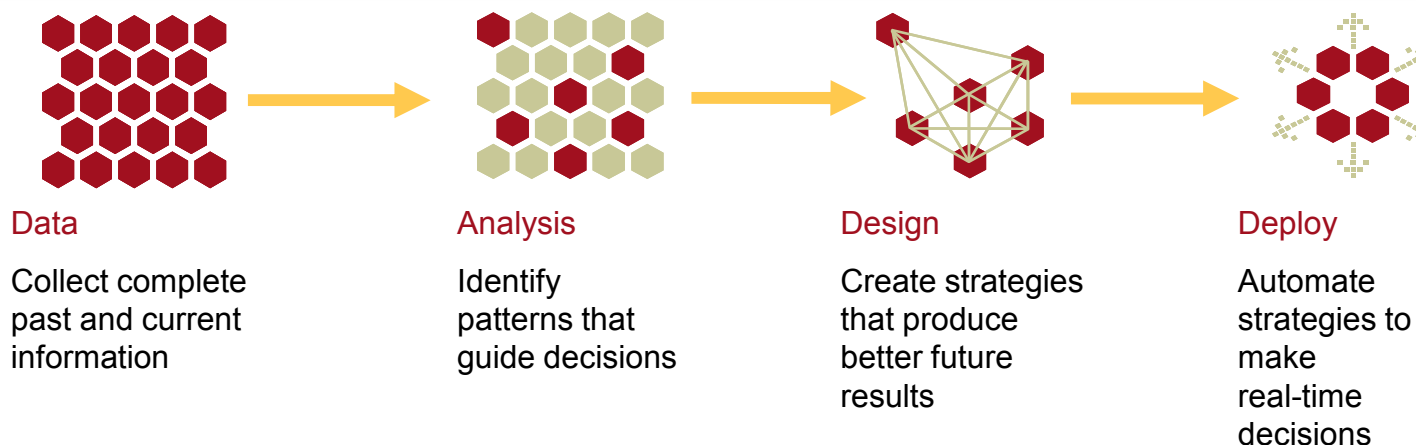
# Paychex Attrition Model (PAM)

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Building this Industry's First Empirically Derived  
Scoring Model to Predict Client Churn

November 2007

# Project Overview and Objectives



**Paychex partnered with a major vendor in an effort to reduce voluntary client attrition rates by utilizing statistical modeling techniques to proactively identify potential lost clients. This project will also:**

- ▶ **Enhanced insight into client profiles**
- ▶ **Improved data planning and analysis**
- ▶ **Improved client relations, satisfaction, and tenure through enhanced interaction**

## Modeling to Reduce Attrition

- ▶ Statistical prediction of which clients are likely to leave, and which are likely to stay
- ▶ Clients are separated into high risk and low risk groups
- ▶ The cost of a retention program is usually incurred for an entire population, including those likely to remain loyal
- ▶ Incremental income will come only by converting a client who would have left to one who remains loyal
- ▶ Not profitable to try to retain clients who would have been loyal anyway
- ▶ Model targets clients with a high likelihood of leaving

# Model Development

## Data Extract

### CDR Clients Analyzed

#### Demographic Information

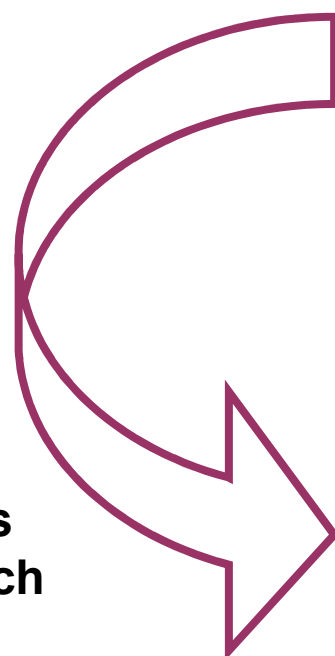
2 Snapshots,  
18 months  
apart

98 Variables  
Sent for Each  
Client

#### Transactional Information

24 Monthly  
Snapshots

118 Variables  
Sent for Each  
Client



**Model  
Development  
Database**

**Files to Vendor**





# Model Development

## Potential Scorecard: Attributes Selected

- ▶ Amount Charged Last Month (in dollars)
- ▶ Payroll Duration (in months)
- ▶ Percent of Active Employees
- ▶ Complexity Code
- ▶ Business Type
- ▶ Total Payment {1} / Total Revenue {2}
- ▶ Average Taxpay NSF Charge Last 24 Months
- ▶ Previous Method
- ▶ Minimum Duration (in months)
- ▶ Branch Category
- ▶ Number of Terminated Employees
- ▶ Business Source
- ▶ EIP Indicator
- ▶ Multiple Product Code

# Model Development

## Paychex Attrition Model (Example)

<i>Description</i>	<i>Scorecard Attribute and Weight</i>					<i>Client Attribute</i>	<i>Score</i>
<b>Amount Charged</b>	< \$30 -112	\$60 - <\$100 6	\$100 - <\$140 12	\$200 - <\$225 11	\$500 + -8	\$75	6
<b>Payroll Duration (month)</b>	<12 -30	42 - <48 11	84 - <96 24	120 - <144 36	168 + 52	11 months	-30
<b>Complexity Code</b>	Core Payroll -13	Restaurant Payroll 5	Readychex Client 8	HRS Products 25	Large, Difficult 81	Core Payroll	-13
<b>Business Type</b>	Restaurant -33	Retail -19	Health Care 8	CPA 18	Attorneys 42	Health Care	8
<b>Business Source</b>	Telemarketing -12	Cold Call -10	Client Referral -1	CPA Referral 6	Acquisition 15	Acquisition	15
						<b>Total:</b>	<b>-14</b>

# Model Development

## Retention Odds vs. Score (Table)

Score Interval	% Active	% Lost	Odds
< -92	6.49%	13.18%	3.31:1
-92 to -66	7.35%	11.76%	4.20:1
-65 to -49	7.70%	10.81%	4.78:1
-48 to -37	6.78%	8.51%	5.35:1
-36 to -27	6.36%	7.30%	5.84:1
-26 to -18	6.12%	6.55%	6.27:1
-17 to -10	5.62%	5.42%	6.96:1
-9 to -2	5.66%	5.24%	7.25:1
-1 to 6	5.65%	4.98%	7.62:1
7 to 13	4.74%	3.95%	8.05:1
14 to 20	4.57%	3.62%	8.49:1
21 to 28	4.89%	3.51%	9.35:1
29 to 36	4.53%	3.00%	10.14:1
37 to 44	4.14%	2.57%	10.80:1
45 to 53	4.08%	2.48%	11.04:1
54 to 63	3.83%	2.12%	12.11:1
64 to 75	3.65%	1.88%	13.00:1
76 to 90	3.24%	1.48%	14.72:1
91 to 111	2.67%	0.98%	18.21:1
112+	1.93%	0.66%	19.66:1
Total	100.00%	100.00%	6.71:1

Average 6.71: