

# Workforce Methodologies

Turnover vs. Attrition vs. Survival Methods

**Evolv Analytics**

# Typical Turnover Reporting

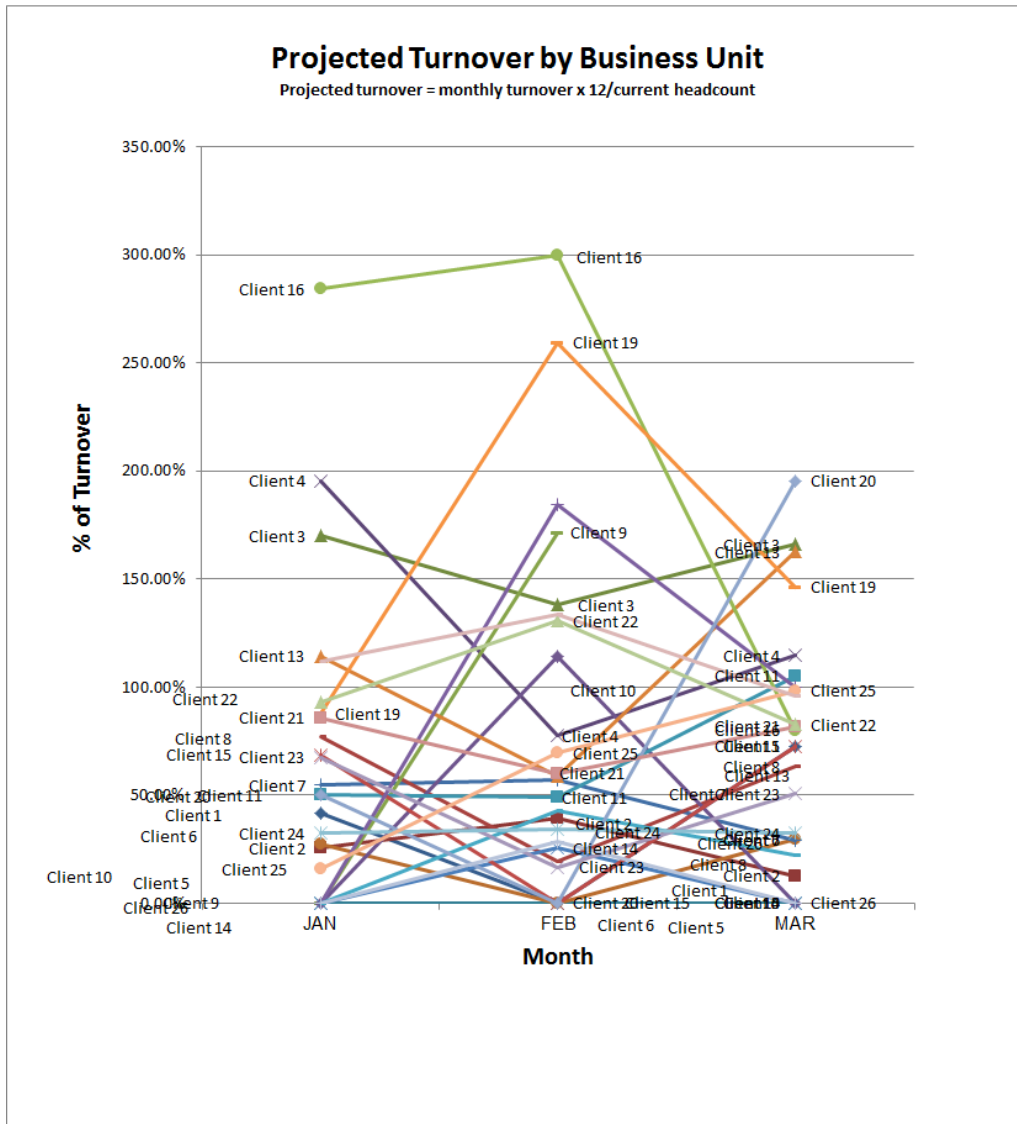
## Global Retention Dashboard

Monthly Detail - August 2012

Client Sites are indicated in blue font

Region	Country	Site	Actual Headcount						
			Agent	Total	0-30 Days	31-60 Days	61-90 Days	91-180 Days	181-1 Yr
Region 1	Country 1	Site 1	0	1	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
		Site 2	554	628	3.70 %	0.00 %	0.00 %	18.64 %	7.27 %
	Country 2	Site 3	0	13	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
		Site 4	671	774	4.71 %	0.00 %	11.54 %	1.92 %	2.99 %
		Site 5	1,509	1,759	0.00 %	4.55 %	3.13 %	7.19 %	2.63 %
	Country 3	Site 6	467	520	200.00 %	5.00 %	42.31 %	8.33 %	9.41 %
		Site 7	34	37	0.00 %	0.00 %	33.33 %	16.67 %	28.57 %
		Site 8	323	385	0.00 %	16.00 %	0.00 %	21.43 %	9.52 %
		Site 9	911	1,021	14.45 %	9.47 %	16.67 %	9.78 %	15.58 %
		Site 10	5	6	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
		Site 11	743	844	19.23 %	6.94 %	44.44 %	8.51 %	4.66 %
			Site 12	0	11	0.00 %	0.00 %	0.00 %	0.00 %
	Region 2	Country 4	Site 13	0	19	0.00 %	0.00 %	0.00 %	0.00 %
Site 14			246	266	0.00 %	0.00 %	0.00 %	12.50 %	10.26 %
Site 15			585	618	11.11 %	18.18 %	18.75 %	6.90 %	6.42 %
Site 16			1,488	1,630	7.00 %	32.29 %	33.85 %	15.02 %	9.32 %
Site 17			179	192	0.00 %	0.00 %	4.00 %	12.12 %	0.00 %
Site 18			1,182	1,310	6.43 %	18.52 %	14.09 %	14.88 %	7.07 %
Country 5		Site 19	313	354	9.52 %	55.56 %	22.22 %	15.56 %	0.00 %

# Typical Turnover Graphs



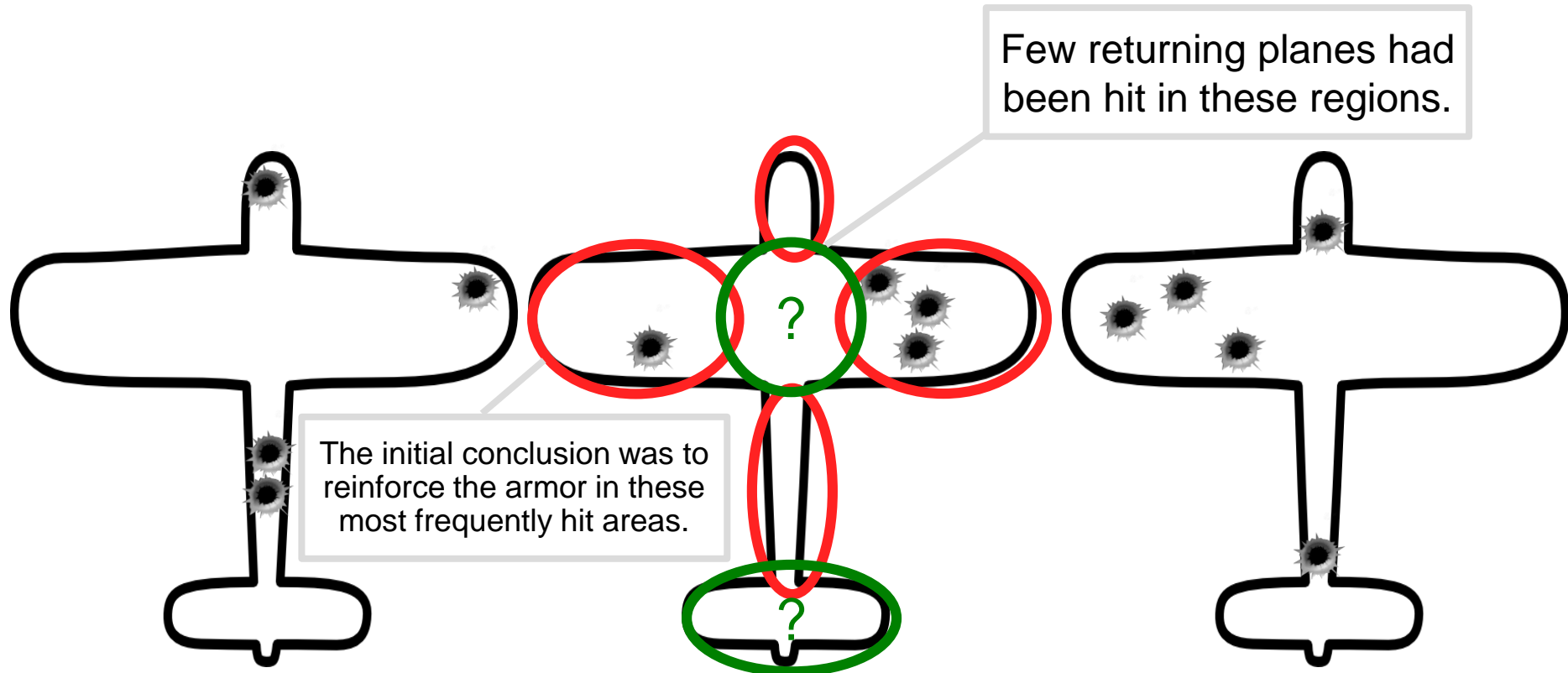
- Cutting turnover into smaller and smaller buckets makes it very volatile
- Also when looking at turnover graphically:
  - Hard to interpret true trends
  - Hard to identify cause and effect

# The History of Survival Models

Survival techniques have been around since the 18<sup>th</sup> century

- Inadvertently invented multiple times in separate disciplines
  - Engineering: Reliability Analysis or Failure Time Analysis
  - Economics: Duration or Transition Analysis
  - Sociology: Event History Analysis
- Perfect for modeling many discrete outcomes:
  - Onset of disease
  - Equipment failure
  - Automobile accidents
  - Marriages
  - Divorces
  - Promotions
  - Retirements
  - Arrests
  - and **JOB TERMINATIONS**

# Evolv applies rigorous scientific methods – overcoming common oversights



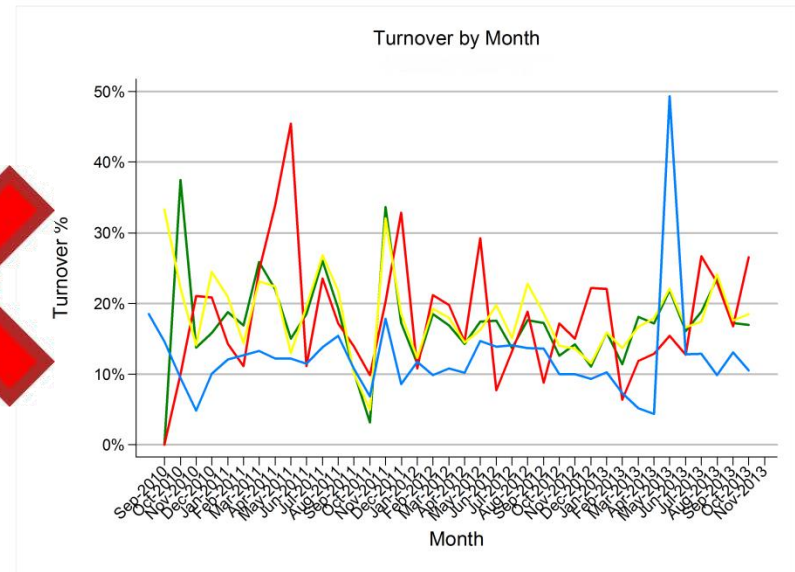
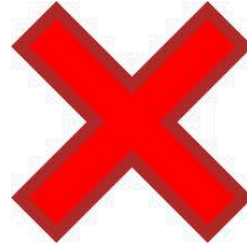
- After the British RAF followed Wald's recommendations, markedly fewer casualties were documented, and hundreds if not thousands of lives were undoubtedly saved.
- Intuitive conclusions can only rely on information that is readily available and comprehensible. Statistical insights and techniques correct for these limitations.

# Turnover vs. Survival

## Turnover

- Problems:

- » Fluctuations during hiring ramps make it an unstable metric.
- » Ignores the timing of exits.
- » Ignores censored observations.
  - Censored records are employees who have not yet termed when the HR report was generated.



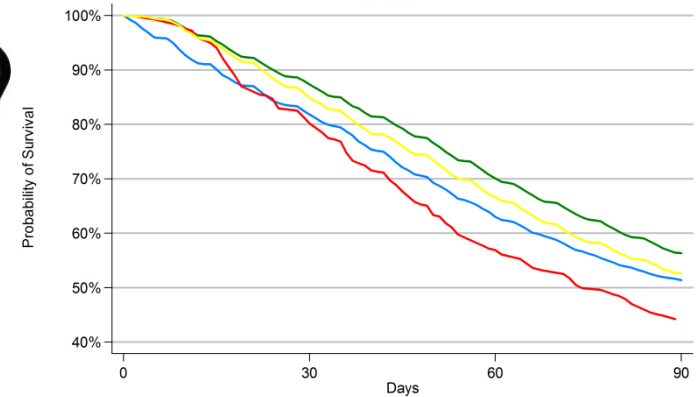
## Survival

- Benefits:

- » Immune to hiring ramps & layoffs.
- » Provides continuous daily estimates.
- » Utilizes censored observations.
  - Incorporates more information than turnover.



Survival Curves for Non-Evolv vs. Evolv (Green vs. Yellow vs. Red)

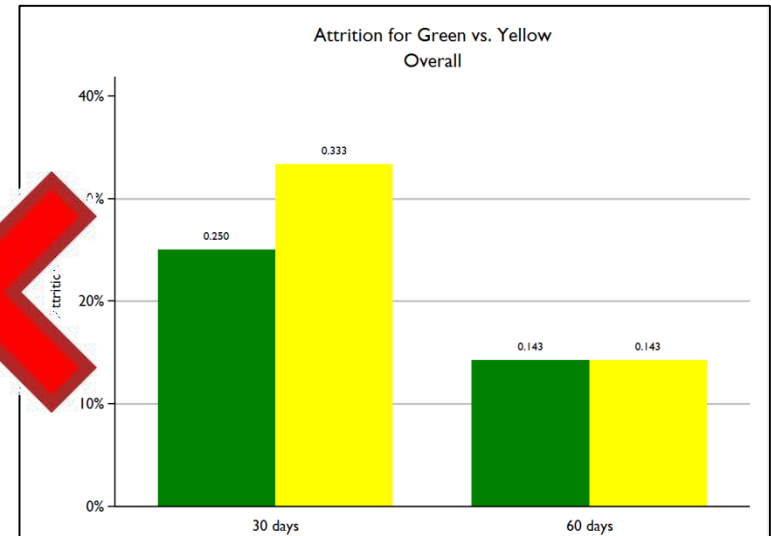
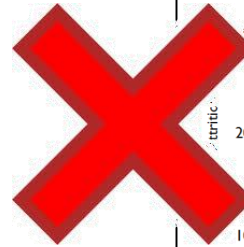


Client ID: 39, Data refresh date: 11-6-2013, Graph created on: 11-19-2013

# Attrition vs. Survival

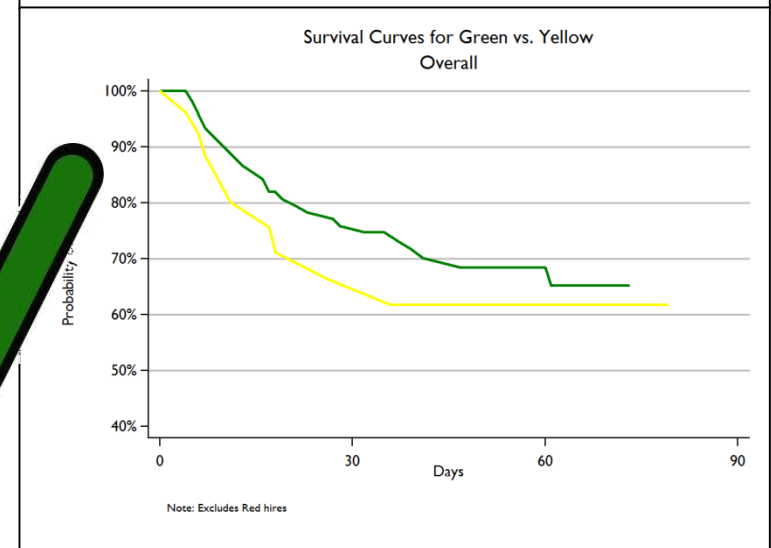
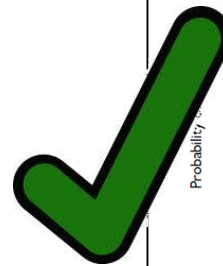
## Attrition

- **Problems:**
  - » 30, 60, & 90 day buckets are arbitrary.
  - » Ignores daily employee exits.
  - » Ignores censored agents.
  - » Attrition should increase from 30 → 60 days.



## Survival

- **Benefits:**
  - » Using daily employee tenure is context driven.
    - Is motivated by the realities of day to day business operations.
  - » Metric not subject to large swings when hires cross a threshold.
  - » Utilizes censored observations.







# Termination Reasons: Human Resource Data

*Fortune 100 Attrition Example*

