Remove Barriers to Access: Rethinking Talent Sourcing

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The Problem: Decreased Pilot Applicant Volume
Pilot Shortage: Why Now?

- More certainty around the pilot shortage:
  - 30,000 out of the 60,222 pilots at the 10 largest US airlines will reach the mandatory retirement age by 2026
  - Not enough pilot trainees are in the pipeline to meet demand
Projected JetBlue Hiring Yield vs. Need

- High Estimate
- Low Estimate
- Average Model
- Hires Needed


- 2014: 412
- 2015: 315
- 2016: 248
- 2017: 371
- 2018: 314
- 2019: 390
- 2020: 269
- 2021: 401
- 2022: 497
Why a Shortage? Barriers to entry are high

• Lucrative profession, but hard to enter

• Typical path (with rare exceptions)
  – Flight school or college = -$250,000 over 4 years
  – Work as a Flight Instructor = +$25,000 over 2 years
  – Work as Regional Pilot = +$30,000 over 4+ years
  – Net until Major Carrier = -$80,000 over 10 years

• How many of you would switch to this career right know, knowing the cost and time? Or tell your kids to do this?
  – We’re too late
Gateway Select
Gateway Select Pilot Training Program

• Reducing barriers:
  – -$120,000 over 13 months; full financing provided
  – +$30,000 as Flight instructor for ~2 years
  – Total to transition: -$60,000 & 3.5 years

• Minimum Requirements for Gateway Select
  – 19 years old
  – High School diploma or GED
  – Legally eligible to work in the US, and travel in and out of the US
  – First Class Medical Certificate
  – …that’s it!
Zero Hour Pilots? But how?!?!?

- Limited minimum qualifications screened out only 7% of applicants
  - Most were underage or international

- Focus switches to potential
  - Who is most likely to successfully complete this rigorous training program?
  - Quality of data & analysis is critical to success
# Top Characteristics in Research

- Job analysis relies on decades of military, and limited commercial, research

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<thead>
<tr>
<th>Characteristics</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Spatial orientation</td>
<td>Ability to understand direction in relation to the surrounding environment at rest and during motion</td>
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<td>Psychomotor ability</td>
<td>Relationship between cognitive functions and physical movement</td>
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<td>Short-term memory</td>
<td>Capacity for holding information in mind in an active, readily available state</td>
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<td>Math/Arithmetic skills</td>
<td>Understanding of the properties and manipulation of numbers; mental calculations</td>
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<td>Technical knowledge</td>
<td>Understanding of basic aviation-related physics, mechanics.</td>
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<td>Attention</td>
<td>Ability to selectively concentrate on information, while ignoring other information</td>
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<td>Perceptual speed</td>
<td>Ability to quickly and accurately compare letters, numbers, objects, pictures, or patterns</td>
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<td>Personality</td>
<td>Job relevant behavioral tendencies</td>
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<td>Multi-tasking</td>
<td>Performing multiple of the above simultaneously</td>
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Tying Potential to Performance

• Reviewed global market of potential vendors with an assessment solution
  – None met our standards of rigor for validation
  – … unfortunately no examples for how to effectively validate for this role
Our Data

• Predictors – 45 vars
  – Personality, Values, Attitudes
  – Cognitive ability
  – Conflict Management
  – Multi-tasking
  – Hand-eye Coordination
  – Interview
  – Group activities
  – Application of Procedures

• Criteria – 80 vars
  – Initial Training Data
  – Recurrent Training Data
  – Customer feedback

• Heavy on database management & analysis
  – Had to develop own tool to make analyses manageable
  – 12243 t-tests to identify scoring
  – Replicated on subsamples of validation sample
  – Series of models to reduce AI
Scoring Analyses – Shiny (for R)

https://github.com/samuelkaminsky/SKTools