Today’s Presentation

• Business Opportunity
  • The Data
  • Markets & Use Cases
  • Challenges
  • Solution
  • Results
A business is born
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ADP is one of the leaders in Payroll and HCM solutions

30 Million+
US Payroll & HCM solutions

575 Thousand+
Businesses served

80% of Fortune 100
Use at least one ADP service

1 out of 6
Employed Americans paid through ADP

$1.85 Trillion
ADP moves Trillions on behalf of our clients and our client's employees

17 Industries
Robust and scalable insights
Paychecks are the source of ADP data

<table>
<thead>
<tr>
<th>Earnings</th>
<th>Rate</th>
<th>Hours</th>
<th>This period</th>
<th>Year to date</th>
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<tr>
<td>Regular</td>
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<td>8.00</td>
<td>115.36</td>
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<td>Overtime</td>
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<td><strong>Gross Pay</strong></td>
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<table>
<thead>
<tr>
<th>Deductions</th>
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<tr>
<td><strong>Statutory</strong></td>
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<td>Medicare Tax</td>
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<tr>
<td>OH State Income Tax</td>
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<tr>
<td>Columbus Tax</td>
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<td><strong>Other</strong></td>
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<tr>
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<td>Personal Accident</td>
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<td>401k*</td>
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<td><strong>Net Pay</strong></td>
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</table>

**Earnings Statement**

- **Period Beginning:** 9/8/2008
- **Period Ending:** 9/24/2008
- **Pay Date:** 9/19/2008

**Other Benefits and Information**

- 401k Pre & Post: 34.71
- Regular Hours - Annual: 815.31
- O/T Hours - Annual: 410
- All Hours - Annual: 574.99
- OT Earnings - Annual: 88.68
- Commissions - Annual: 8,046.10
- Vacation Earnings: 859.14
- Reg Earnings - Annual: 11,759.77
- Bereavement: 115.36
- Holiday: 230.72
- Pay Notice: 1,038.24
- QTD Regular 401k: 395.95

**ACME, INC.**
- **One Avenue A, Suite 100**
- **Busytown, St, USA 07068**

**Taxable Marital Status:** Married

**Exemptions/Allowances:**
- **Federal:** 1
- **State:** 1

**JANE E DOE**
- **123 Main St.**
- **Anytown, St, USA 11000**

**Associate ID:** 223072
### Paycheck: Data Anonymized & Aggregated

#### Earnings Statement
- **Period Beginning:** 9/8/2008
- **Period Ending:** 9/21/2008
- **Pay Date:** 9/23/2008

#### Earnings
- **Gross Pay:** $1,166.84

#### Year to Date
- **Gross Pay:** 22,139.10

#### Deductions
- **Statutory:**
  - **Federal Income Tax:** -71.65, 2,040.37
  - **Social Security Tax:** -71.56, 1,370.34
  - **Medicare Tax:** -96.73, 320.48
  - **OH State Income Tax:** -28.61, 632.46
  - **Columbus Tax:** -23.08, 442.05
- **Other:**
  - **LTD:** -4.85, 57.48
  - **Personal Plans:** -6.90, 65.96
  - **Personal Accident:** -2.77, 32.83
  - **401%:** -34.71, 400.68

#### Other Benefits and Information
- **Regular Hours - Annual:** $415.31
- **OT Hours - Annual:** 41.0
- **All Hours - Annual:** 974.99
- **OT Ears - Annual:** 88.68
- **Commission - Annual:** 8,046.19
- **Vacation Ears:** 859.14
- **Reg Earns - Annual:** 10,766.77
- **Bene Plan:** 115.36
- **Sick:** 230.72
- **Pay Notice:** 1,038.24
- **QTD Regular - 401%:** 365.95

#### Paycheck Details
- **CO FILE DEPT:** 2LJ 000100
- **CHECK NO:** 82010
- **BUSYTOWN, ST, USA 07068**
Reported by Geographic Location Layers

- Nation 1
- Regions 4
- Divisions 9
- States 50
- Counties ~3200
- Census Tracts ~74K
- Block Groups ~211K
- Census Blocks ~11.2M

Zip Codes & MSAs
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Market Problem & Opportunities

Use Cases

- **Macro Economic Strategy:**
  Macro view of the US in context of net migration, employment income, demographics, industries and job types.

- **Micro Economic Strategy:**
  Validates site selections. Identifies emerging and distressed areas. Provides ability to identify, segment and target populations at a local level.

- **Retail Banking: Competitive Environment**
  Ability to view “direct deposits” via share of wallet, determined by pay check deposits.

Verticals

- Capital Markets Research
- Real Estate Multiple Verticals
- Banking
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We needed an automated process for data set creation, validation and delivery to clients.

The process was required to support:

- Rapid iterative file preparation for clients that need to evaluate multiple data formats.
- Scheduled delivery of files clients need each month/week.
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Automated and Scalable Data Environment

Built a highly automated and scalable Ventures Data Environment to ensure efficient high quality data delivery

Launched infrastructure that scales to ensure efficient sales fulfillment

- Increased data security (limited access)
- Automation increases efficiency for data set preparation and delivery
- Scalability to support growth
- Incorporation of 3rd Party data
- Predictable, rapid responses to client needs
- Automation reduced process time and the probability of errors
- Many data files can be created, fully validated and delivered to most clients in about 90 minutes

Current Ventures Data State

- Dedicated Ventures Reporting & Analytics environment
- Secure ADP instance of AWS-hosted environment (with Quaero CDP Platform)
Quaero CDP Architecture

- CDP automates data processing and creates data assets
- Data assets are used in client extracts, analytics and Explorer
- CDP auto scales compute and storage based on data volume and processing need
- Role based permission is enabled within applications and database layer
Data Monetization is a multi-step process

1. Sources provide data
2. Data Cloud team models and publishes
3. Ventures team collects, analyzes, and validates
4. Commonly requested aggregations created for "Standard Files"
5. Data received, discovered, analyzed by client
6. Client uses data, revenue booked

Client Specific Data Set Requirements Include:
- Filters
- Aggregation
- Fixed Panel
- Frequency Distribution
Data Processing and Client Extract Process

1. Automated Data Delivery via MFT
2. Transformation
3. Automated Validation of Incoming Data
4. Data passed the defined thresholds
   - Yes: Data Assets
     - Aggregate Tables for “standard files” extract
   - No: Process Stops
5. No
6. Yes

7. Configure Extracts
8. Automated Extract File Validation
9. Data passed the defined thresholds
   - Yes: Automated File delivery to Clients via MFT
   - No: Process Stops
10. No
11. Yes
12. Automated notification to Client and ADP team
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Share of Wallet

View competitive deposit landscape across the US using reliable ADP pay check deposit and payroll data

Deposits tracked monthly:
• Financial Institutions: Banks, Credit Unions
• Total deposits (dollars & paychecks)

Demographics tracked monthly:
• Income, age, gender & generation type

Data Aggregated:
• State, County, City & Zip Code

Share of Wallet Measurement & Trends:
• Total dollar deposits
• Total paycheck deposits
• Top Five Banks
Data Grain

Available at the level of depth required and on a monthly basis

1 Nation
United States

States
(50)

MSAs
(380)

Counties
(3,200)

ZIP Codes
(32K)

Census Blocks
(11.2M)

New York

New York Metropolitan Area/Tri-State Area

New York County
(Manhattan)

10036
(New York, NY)

1008
(Times Square)

* For statistical purposes and graphical representation, the Census Bureau’s ZIP Code Tabulation Areas are used.
** ADP requires a minimum number of employees and employers to populate data for the next geo-layer.
*** Census blocks hierarchy includes census blocks, block groups, and census tracts.
Predict Case Shiller Change Over the Next 12 Months

- An initial model using ADP data to predict Case Shiller Index changes over the next 12 months.
- The observed values (blue dots) and predicted values (orange dots) are shown for Case Shiller MSAs.
Data collected for operational purposes can have potential value outside the initial domain.

Realizing this potential requires significant transformation.

Having the right tools can accelerate this process.

The rewards are lower costs, faster and higher value realization.
Thank You
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