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Sift Science

ATPS APAC, Phuket, 2018
How do you deliver outstanding experiences without inviting fraud?

$858M
Cost of payment fraud to the airline industry each year

1-2%
Of travel agency revenue is used to manage fraud

72%
Of businesses worry about preventing fraud without turning away good customers

sift science
Machine learning can separate fraudsters from real travelers

It’s only when you apply behavioral analysis on a large scale, looking at all of a user’s activity and all activity of users across the travel industry, that you can get an accurate picture of whether someone is truly who they say they are.

At Sift Science, we have over 16,000 signals we look at to identify fraud. Here are just a few examples:

- Account age
- Time until event
- Seat selection
- Order size
- Destination
- Buyer location
- Device type / ID
- Fare class

Sources: Statista, eMarketer, Zozi, IATA, Phocuswright, Sift Science

To learn more about how Machine Learning can help you prevent fraud email:
Tobias Abdon tobias@siftscience.com
Balancing Security with Customer Experience

Air Industry: Fraud and Payments
Who are we?

• Nuk Consultants is a company created in 1996.
• We are experts in extracting business value from data in order to increase revenue in the companies.
• Making use of our knowledge and proprietary algorithms, we help to create personalized systems for our customers.
• We work with premium brands in Travel and Retail sectors building systems:
  • that increase credit card acceptance while reducing the cost.
  • Designing optimal payments portfolio.
  • Managing and designing fraud systems tailored to company needs.
Fraud vs Revenue Protection

“Fraud is considered as a cost for the company. Is it all about how we can reduce it?

Revenue protection considers the fraud cost as one element in the sales process. We need to understand that the fraud cost is not only about the chargeback cost, it is more about customers that are not able to finish the purchase.

By measuring and monitoring the customers not able to purchase, it is possible to increase sales by fixing the main issues found in the process.

Using the approach of revenue protection, companies can increase the bottom line”
Working Philosophy

The main objectives for us are:

• Fine tune and improve fraud system performance from a revenue protection perspective

• Find the suitable working point and the desired balance between lost sales and cost of fraud.

• Spot any underperforming segment in the payment funnel
Fraud Control System: Pipeline

[Diagram showing the process flow of Automated Screening, Selective 3DS, Manual Review, Accept/Reject, and Chargeback Management, leading to Revenue. Below the pipeline, there are icons indicating Profit Leaks: Drop Rate Conversion, Staffing Cost Conversion, Lost Sales, Insult Cost, and Fraud Cost Operational Cost.]

ATPS APAC, Phuket, 2018
Fraud Control System: KPIs

The usual suspects:

- Reject % ➔ Legit users unable to purchase.
- Accept without 3DS % ➔ Higher conversion & Risk.
- Accept with 3DS % ➔ Drop rate & Lower Conversion
- Fraud % ➔ Direct cost + reputation
- Chargeback Recovery % ➔ Economic recovery. Operational cost
What can we do?

Some tips:

• Involve all teams

• Use Risk Free Payment Methods

• Size Insult Cost

• Monitor proper KPIs

• Size the Success of any change (as IF analysis)
Key Performance Indicators

Two main KPIs besides the usual ones:
Fraud Cost (Fraud Amount per Order or Fraud Unit Cost):

\[
\text{Fraud Cost} = \frac{\text{Fraud Amount}}{\text{Issued Orders}}
\]

Filtering Cost: Economical opportunity lost because the fraud system and fraud controls in place.

Example for a Boolean Fraud system:
- Automatically Rejected Orders: Orders lost because the decision taken by the Fraud Control System.
- Marginal Profit per order
- Issuing Rate: Orders Finalized / Orders requested
- Recovery Factor: Usually is the issuing rate of those orders pushed to a non risk payment method when the Fraud System decision was REJECT. Between 25 to 50%.

\[
\text{Filtering Cost} = \frac{\text{Auto Rejected Orders} \times \text{Recovery Factor}}{\text{Orders}} \times \text{Issuing Rate} \times \text{Marginal Profit}
\]
Key Performance Indicators

Balancing Fraud Cost vs Filtering Cost

Fraud Cost

Filtering Cost
### Key Performance Indicators

#### Balancing Fraud Cost vs Filtering Cost

<table>
<thead>
<tr>
<th>Month</th>
<th>Filtering Unit Cost</th>
<th>Fraud Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2017</td>
<td>€2.00</td>
<td>€1.50</td>
<td>€3.50</td>
</tr>
<tr>
<td>01/02/2017</td>
<td>€2.50</td>
<td>€1.25</td>
<td>€3.75</td>
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<tr>
<td>01/03/2017</td>
<td>€2.30</td>
<td>€1.25</td>
<td>€3.55</td>
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<td>01/04/2017</td>
<td>€2.00</td>
<td>€1.20</td>
<td>€3.20</td>
</tr>
<tr>
<td>01/05/2017</td>
<td>€1.50</td>
<td>€1.20</td>
<td>€2.70</td>
</tr>
<tr>
<td>01/06/2017</td>
<td>€1.25</td>
<td>€1.30</td>
<td>€2.55</td>
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<tr>
<td>01/07/2017</td>
<td>€1.25</td>
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<td>01/08/2017</td>
<td>€1.20</td>
<td>€1.00</td>
<td>€2.20</td>
</tr>
<tr>
<td>01/09/2017</td>
<td>€1.00</td>
<td>€1.10</td>
<td>€2.10</td>
</tr>
<tr>
<td>01/10/2017</td>
<td>€1.00</td>
<td>€1.00</td>
<td>€2.00</td>
</tr>
<tr>
<td>01/11/2017</td>
<td>€0.90</td>
<td>€1.30</td>
<td>€2.20</td>
</tr>
<tr>
<td>01/12/2017</td>
<td>€1.00</td>
<td>€1.00</td>
<td>€2.00</td>
</tr>
</tbody>
</table>

![Graph showing the comparison of filtering unit cost, fraud cost, and total cost over time.](image-url)
## Sizing the success

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>delta</th>
<th>As IF analysis</th>
<th>Savings YoY</th>
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<tr>
<td><strong>Orders</strong></td>
<td>5.000.000</td>
<td>5.200.000</td>
<td>5.200.000</td>
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<tr>
<td>Rejected Orders</td>
<td>300.000</td>
<td>200.000</td>
<td>312.000</td>
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<td></td>
</tr>
<tr>
<td>3DS Orders</td>
<td>1.500.000</td>
<td>1.300.000</td>
<td>1.560.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non 3DS Orders</td>
<td>3.200.000</td>
<td>4.100.000</td>
<td>3.328.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Confirmed</strong></td>
<td>3.614.000</td>
<td>4.207.000</td>
<td>3.758.560</td>
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<tr>
<td>3DS Confirmed</td>
<td>990.000</td>
<td>845.000</td>
<td>1.029.600</td>
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<tr>
<td>Non 3DS Confirmed</td>
<td>2.624.000</td>
<td>3.362.000</td>
<td>2.728.960</td>
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<tr>
<td><strong>Margin</strong></td>
<td>23 €</td>
<td>23 €</td>
<td>23,00 €</td>
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<tr>
<td><strong>Overall Issuing Rate</strong></td>
<td>72,28%</td>
<td>80,90%</td>
<td>8,62%</td>
<td>72,28%</td>
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<tr>
<td>3DS Issuing Rate</td>
<td>66%</td>
<td>65%</td>
<td>-1,00%</td>
<td>66,00%</td>
<td></td>
</tr>
<tr>
<td>Non 3DS Issuing Rate</td>
<td>82%</td>
<td>82%</td>
<td>0,00%</td>
<td>82,00%</td>
<td></td>
</tr>
<tr>
<td><strong>Filtering Cost</strong></td>
<td>7.228.000 €</td>
<td>6.310.500,00 €</td>
<td>7.517.120,00 €</td>
<td>1.206.620,00 €</td>
<td></td>
</tr>
<tr>
<td><strong>Filtering Unit Cost</strong></td>
<td>2,00 €</td>
<td>1,50 €</td>
<td>-0,50 €</td>
<td>2,00 €</td>
<td></td>
</tr>
<tr>
<td><strong>Fraud Cost</strong></td>
<td>3.614.000,00 €</td>
<td>2.103.500,00 €</td>
<td>3.758.560,00 €</td>
<td>1.655.060,00 €</td>
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</tr>
<tr>
<td><strong>Fraud Unit Cost</strong></td>
<td>1,00 €</td>
<td>0,50 €</td>
<td>-0,50 €</td>
<td>1,00 €</td>
<td></td>
</tr>
<tr>
<td><strong>Reject Rate</strong></td>
<td>6,00%</td>
<td>3,85%</td>
<td>-2,15%</td>
<td>6,00%</td>
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</tr>
<tr>
<td><strong>Manual Check Rate</strong></td>
<td>7,00%</td>
<td>7,00%</td>
<td>0,00%</td>
<td>7,00%</td>
<td></td>
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<tr>
<td><strong>Manual Check Accept Rate</strong></td>
<td>52,00%</td>
<td>55,00%</td>
<td>3,00%</td>
<td>52,00%</td>
<td></td>
</tr>
<tr>
<td><strong>3DS Rate</strong></td>
<td>30,00%</td>
<td>25,00%</td>
<td>5,00%</td>
<td>30,00%</td>
<td></td>
</tr>
<tr>
<td><strong>Confirmed Margin</strong></td>
<td>83.122.000,00 €</td>
<td>96.761.000,00 €</td>
<td>86.446.880,00 €</td>
<td>10.314.120,00 €</td>
<td></td>
</tr>
</tbody>
</table>

\[ \text{~15\% Revenue Margin} \]
Payment System: Pipeline

Order → PSP / Gateway → Payment Methods → ACQ BANK → SCHEMES → ISS BANK → OK /KO → Revenue

Profit Leaks:
- Technical Issues
- Risk controls
- TX Cost
- Diff. Conversion
- UX degradation
- Risk Controls
- Acq. Cost
- Risk Controls
- Interchange Cost
- Risk Controls
- Interchange Cost
- Insult Cost
Payment System: KPIs

The usual suspects:

• Bank Conversion %
• Down times
• KO error code Share
• PM Share

Extra KPIs:

• Conversion in each step of the funnel
• Payment Cost (all costs)
• Granularity
  • Issuing Bank
  • Country
  • IP
What can we do?

Some tips:

• Make sure to have SLAs in place
• Use proper Payment Methods
• Check MID/MCC configuration
• Do not be acquiring cost obsessive

• Spot underperforming segments
  • Smart Routing
  • A/B Testing
• Monitor KPIs
Sizing the success

Even small improvements in the payment funnel have huge impact on the bottomline

<table>
<thead>
<tr>
<th></th>
<th>5.000.000</th>
<th>5.000.000</th>
<th>delta</th>
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<td>3.645.000</td>
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<td>72,28%</td>
<td>72,90%</td>
<td>0,62%</td>
</tr>
<tr>
<td>3DS Issuing Rate</td>
<td>66%</td>
<td>67%</td>
<td>1,00%</td>
</tr>
<tr>
<td>Non 3DS Issuing Rate</td>
<td>82%</td>
<td>82,5%</td>
<td>0,50%</td>
</tr>
<tr>
<td>Fraud Unit Cost</td>
<td>1,00 €</td>
<td>1,00 €</td>
<td></td>
</tr>
<tr>
<td>Filtering Unit Cost</td>
<td>2,00 €</td>
<td>2,00 €</td>
<td></td>
</tr>
<tr>
<td>Payment Unit Cost</td>
<td>2,00 €</td>
<td>2,00 €</td>
<td></td>
</tr>
<tr>
<td>Confirmed Margin</td>
<td>83.122.000,00 €</td>
<td>83.835.000,00 €</td>
<td>713.000,00 €</td>
</tr>
</tbody>
</table>

~1% Revenue Margin
Q&A
Contact details

**Josep Bernat:** Director of NUK Consultants. He has been Chief Revenue Officer of OdigeO, Vueling and clickair.

**Eric Olmos:** Payments and Fraud responsible. Has been during 7 years OdigeO’s Head of Fraud and Payments. He has been leading the consolidation project of methodologies in Lastminute.com.
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Thursday 30th August 2018

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