GLOBAL TRENDS IN FINANCIAL CRIMES

DAVID STEWART
DIRECTOR, SECURITY INTELLIGENCE PRACTICE
• Industry Trends
• Financial Industry Response
• Industry Best Practices
• SAS Case Studies
• Future: Financial Intelligence Unit
70
CONTRIBUTING ORGANIZATIONS

79,790
SECURITY INCIDENTS

2,122
CONFIRMED DATA BREACHES

61
COUNTRIES REPRESENTED
<table>
<thead>
<tr>
<th>Category</th>
<th>Most urgent</th>
<th>High priority</th>
<th>Medium priority</th>
<th>Low priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cybersecurity</td>
<td>30%</td>
<td>38%</td>
<td>27%</td>
<td>5%</td>
</tr>
<tr>
<td>Anti-money laundering</td>
<td>17%</td>
<td>29%</td>
<td>35%</td>
<td>19%</td>
</tr>
<tr>
<td>Know-your-customer (KYC)</td>
<td>5%</td>
<td>37%</td>
<td>39%</td>
<td>19%</td>
</tr>
<tr>
<td>External fraud (first party)</td>
<td>14%</td>
<td>21%</td>
<td>43%</td>
<td>22%</td>
</tr>
<tr>
<td>Sanctions and watch-list monitoring</td>
<td>7%</td>
<td>26%</td>
<td>50%</td>
<td>17%</td>
</tr>
<tr>
<td>External fraud (third party)</td>
<td>8%</td>
<td>25%</td>
<td>43%</td>
<td>24%</td>
</tr>
<tr>
<td>Internal fraud</td>
<td>11%</td>
<td>13%</td>
<td>49%</td>
<td>27%</td>
</tr>
<tr>
<td>Trade surveillance</td>
<td>3%</td>
<td>21%</td>
<td>56%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: Chartis Global Financial Crime Survey
Financial Losses from Fraud Over in 2014
Percentage of Respondents

- 9% Decrease
- 13% Unsure
- 27% No Change
- 51% Increase

Age of Retail Banking Technologies for Large Banks
Relative Rank, Indexed from Responses, 2014

<table>
<thead>
<tr>
<th>Technologies with Oldest Install Dates</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Card Fraud Management</td>
<td>6</td>
</tr>
<tr>
<td>2. Fraud Management</td>
<td>7</td>
</tr>
<tr>
<td>3. Core Banking Systems</td>
<td>8</td>
</tr>
<tr>
<td>4. Authentication/Identity Management</td>
<td>9</td>
</tr>
<tr>
<td>5. Card Analytics</td>
<td>10</td>
</tr>
<tr>
<td>6. Branch Software: Teller Automation</td>
<td></td>
</tr>
<tr>
<td>7. Pricing Analytics</td>
<td></td>
</tr>
<tr>
<td>8. Credit Risk Management</td>
<td></td>
</tr>
<tr>
<td>9. Mortgage Origination Systems</td>
<td></td>
</tr>
<tr>
<td>10. Loan Servicing Systems</td>
<td></td>
</tr>
</tbody>
</table>

Source: iSMG Faces of Fraud Study, 2014.

*Banks with over $100B in assets*
## Table 3. Use of mobile banking in past 12 months by age
Percent, except as noted

<table>
<thead>
<tr>
<th>Age group</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–29</td>
<td>45</td>
<td>54</td>
<td>63</td>
<td>60</td>
</tr>
<tr>
<td>30–44</td>
<td>29</td>
<td>37</td>
<td>43</td>
<td>54</td>
</tr>
<tr>
<td>45–59</td>
<td>12</td>
<td>21</td>
<td>25</td>
<td>32</td>
</tr>
<tr>
<td>60+</td>
<td>5</td>
<td>10</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>22</td>
<td>29</td>
<td>33</td>
<td>39</td>
</tr>
<tr>
<td><strong>Number of respondents</strong></td>
<td>1,859</td>
<td>2,180</td>
<td>2,187</td>
<td>2,437</td>
</tr>
</tbody>
</table>

Note: Percentages are of those in each group who have a mobile phone and a bank account.

## Table 5. Use of mobile payments in the past 12 months by age
Percent, except as noted

<table>
<thead>
<tr>
<th>Age group</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–29</td>
<td>20</td>
<td>26</td>
<td>28</td>
<td>34</td>
</tr>
<tr>
<td>30–44</td>
<td>16</td>
<td>18</td>
<td>21</td>
<td>31</td>
</tr>
<tr>
<td>45–59</td>
<td>8</td>
<td>9</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>60+</td>
<td>5</td>
<td>8</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12</td>
<td>15</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td><strong>Number of respondents</strong></td>
<td>2,002</td>
<td>2,291</td>
<td>2,341</td>
<td>2,603</td>
</tr>
</tbody>
</table>

Note: Percentages are of those in each group who have a mobile phone.
Emerging Technology Adoption Timeline
Estimated Timeline for 25% Industry Adoption Rate

- 2014: Cybersecurity Integration
- 2015: Device Identification and Reputation
- 2016: Regulatory and Compliance Reporting
- 2017: Bank-Level Risk Management

Source: CEB Analysis.
GLOBAL TRENDS

DISRUPTION, CORRUPTION, REPUTATION RISK

Ross Ulbricht
“Dread Pirate Roberts”
Silk Road

Herve Falciani
Former HSBC Private Banker

“SONY Hack”
FINANCIAL CRIMES  INDUSTRY RESPONSE

• New payments players introduce risk
• “Frictionless” customer experience reduces time to decision
• Political exposure to corruption and tax evasion
• Civil and criminal liability risk

• Traditional rules-based systems inadequate
• Layered approach to security
• Predictive analytics during authorization
• Network analytics to identify associated parties
Layered Approach to Security
- Endpoint Detection
- Behavioral Analysis
- Channel / Product Fraud Detection
- Cross – Channel Fraud Detection
- Entity Link Analysis
- Social Media Analysis
- Intelligent Routing & Investigations Management
THE NEW ENTERPRISE

COVERING THE FULL SPECTRUM

defined analytics  behavioral monitoring  dynamic in-memory  ad-hoc / unstructured data  Unknown Patterns

Detection Operations  Ideation / Validation  Proactive Forensics
CASE STUDY

ACH PAYMENTS TIER I BANK

CHALLENGES

- Analyze commercial ACH/Wire payments for suspicious transactions
- Rare fraud events represent potentially large fraud losses per transaction
- Difficult to detect fraudulent transactions within batch window
- Apply advanced models to predict very rare fraud events

SOLUTION

- SAS® Enterprise Fraud Management™ solution
- Intra-day deployment of advanced neural network models
- Anomaly detection techniques for identifying abnormal behavior

BUSINESS IMPACT

- 60% Value Detection Rate
- Improved prevention of commercial account takeover
- Prevention of high value losses
CASE STUDY  REPUTATION RISK

PROBLEM
• One of largest global banks experienced significant regulatory actions
• Reputation risk associated with affiliate subsidiaries
• Ability to link commercial entities across geographies
• Centralized oversight “safety net”

SOLUTION
• SAS® Financial Crimes Platform
• Federated data searches across geographies
• Entity analysis and text mining of external and social media
• Fast batch generation of network analytics
• Big Data Visualization of anomalous patterns

RESULTS
• Financial Crimes Intelligence Unit that sees activity across the globe
• Ability to generate “bottom up” networks in minutes vs. 8 hours
• Provide a layer of controls above local activities
“Financial institutions are looking to establish or enhance their financial intelligence units in order to better leverage disparate sources and available internal and external intelligence to improve the effectiveness and efficiency of their financial crime risk management programs.”

E&Y Point of View

HOLISTIC VIEW OF FINANCIAL CRIMES RISK

Potential functional scope of an FIU

CHARTIS FINANCIAL CRIMES RISK MANAGEMENT 2015
SAS FRAUD FORUM

Tendências no combate aos crimes financeiros

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