



Product Analyst Trainee Program

Risk Assessment in the Regtech

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Risk Assessment:

We developed the understanding of *risk* which can be explained in simple terms as *any event(s) that can affect the (expected) result negatively*. The risk assessment can also be defined as the methods, processes or techniques to assess the risk associated with a particular thing. In the domain of Regtech we can state *risk assessment* as assessing the risk involved with the customers of the business that in case of non-compliance with regulations can affect the business with penalties and fines from regulatory bodies.

Process of Risk Assessment in RegTech:

The process of Risk Assessment in RegTech has the following sub-processes:

- CIP (Customer Identification Program) and Customer Verification
- Risk Assessment
- Ongoing Monitoring

Risk Assessment Models (How risk is calculated in Regtech?)

We have identified two models for the risk assessment that are mainly used in the risk assessment solutions.

- *Rule-based Assessment Model*
- *Algorithm-based Assessment Model.*

Rule-based Model focuses on different rules configured by the business according to his business requirements. Algorithm-based Model focuses on different parameters for arriving at a risk score that are mainly pre-built. Rule-based assessment model supports a business process framework, which allows it to provide different values for the pre-defined rules in the solution.

Rule-based assessment calculates a risk score based on client configurable rules. Rule-based assessment model is executed only if it is chosen by the business for an installation. This option can be decided using the Rule-based assessment parameter available in the solutions.

Rule Based Risk Parameters - Individual

- Geo Risk - Country of Citizenship
- Geo Risk - Country of Residence
- Occupation Risk
- Watch List Risk

Rule Based Risk Parameters - Business

- Watch List Risk
- Industry Risk
- Country of Headquarters
- Legal Structure And Ownership Risk
- Country of Operations

- Corporation Age Risk
- Geo Risk - Countries of Operations

Algorithm-based Assessment Model calculates the risk of customers based on different parameters which are based on customer type. Rule-based Model focuses on different rules configured by the business. Algorithm-based Model focuses on different parameters for arriving at a risk score.

Algo Based Risk Parameters - Individuals

- CIP Risk - Primary Customer
- Geo Risk - Country of Citizenship
- Geo Risk - Country of Residence
- Geo Risk - Country of Taxation
- Length of Relationship Risk
- Negative News Risk - Interested Parties
- Negative News Risk - Primary Customer
- Occupation Risk
- Risk associated to Source of Wealth
- Watch List Risk - Primary Customer
- Watch List Risk - Interested Parties
- Risk associated with Account Type
- Risk of politically exposed persons

Algo Based Risk Parameters - Business

- Geo Risk - Country of Headquarters
- Geo Risk - Countries of Operations
- Watch List Risk - Primary Customer
- Watch List Risk - Interested Party
- Risk Associated with Account Type
- Industry
- Line of Business
- Registration Number
- Incorporation Type
- Incorporation Date

Industries

Banking:

Risk assessment in the context of regulatory technology (RegTech) for banking involves leveraging technological solutions to streamline and enhance the risk assessment process.

1. Data Collection: The first step involves collecting relevant data from various sources within the bank and external sources, such as regulatory databases, market data providers, and industry

reports. It include customer information, transactional data, financial statements, regulatory updates, and risk indicators.

2. Data Integration and Aggregation: The collected data is integrated and aggregated into a central platform or system, which serves as a single source of truth for risk assessment. This step involves cleansing and validating the data to ensure its accuracy and reliability.

3. Automated Risk Identification: Using advanced algorithms and artificial intelligence (AI), the RegTech solution analyzes the integrated data to identify potential risks automatically. These risks can include compliance risks, financial risks, operational risks, and reputational risks. The system flags any anomalies or deviations from regulatory requirements or predefined risk thresholds.

4. Risk Scoring and Prioritization: The identified risks are assigned scores based on their severity, likelihood, and impact. The RegTech solution applies predefined risk assessment models or customizable risk scoring methodologies to evaluate and rank the risks. This step helps prioritize risks for further analysis and mitigation.

5. Risk Assessment and Analysis: Once risks are prioritized, the RegTech solution performs a detailed assessment and analysis of each risk category. It examines the root causes, potential consequences, and interdependencies of the risks. Advanced analytics techniques, such as data mining, machine learning, and natural language processing, may be employed to extract valuable insights from unstructured data sources like regulatory texts and news articles.

6. Compliance Monitoring: Regulatory compliance is a critical aspect of risk assessment in banking. The RegTech solution continuously monitors changes in regulatory requirements, identifies gaps or non-compliance areas, and alerts relevant stakeholders. It ensures that the bank's operations, products, and processes align with the applicable regulations and standards.

7. Real-time Reporting and Dashboards: The RegTech solution generates real-time reports and interactive dashboards to provide a comprehensive overview of the bank's risk profile. These reports and dashboards present key risk indicators, risk exposure metrics, and visual representations of risk data. They enable stakeholders to monitor risks, make informed decisions, and take timely actions.

8. Regulatory Reporting and Documentation: The RegTech solution assists in generating regulatory reports and documentation required by various regulatory bodies. It automates the preparation and submission of regulatory filings, reducing manual effort and ensuring accuracy and consistency.

9. Continuous Monitoring and Improvement: The RegTech solution continuously monitors risks and regulatory changes, adapting to new requirements and emerging risks. It undergoes regular updates and enhancements to incorporate new functionalities and address evolving risk management needs.

Challenges of risk assessment in banking industry according to regtech

Risk assessment in the banking industry, when approached through RegTech solutions, can face several challenges. Here are some common challenges:

1. Data Integration:

The banking industry generates vast amounts of data from various systems and sources. One of the challenges is integrating and consolidating this data from multiple sources into a unified risk assessment platform. Ensuring data accuracy, completeness, and consistency can be a complex task.

2. Data Quality:

Data quality is crucial for reliable risk assessment. Banks need to ensure that the data used for risk assessment is accurate, up-to-date, and properly validated. Data inconsistencies, errors, or missing information can hinder the accuracy and effectiveness of risk assessments.

3. Data Privacy and Security:

Banks handle sensitive customer information, and complying with data privacy regulations is of utmost importance. RegTech solutions used for risk assessment must address privacy concerns and ensure robust data security measures to protect against unauthorized access or data breaches.

4. Regulatory Complexity:

Banks operate in a highly regulated environment, and regulatory requirements are constantly evolving. RegTech solutions need to keep up with the changing regulatory landscape to ensure that risk assessments align with the latest regulations. Staying updated and adapting to regulatory changes can be challenging for both banks and RegTech providers.

5. Model Validation:

Risk assessment models used in the banking industry require validation to ensure their accuracy and reliability. RegTech solutions need to provide mechanisms for model validation, including backtesting, sensitivity analysis, and stress testing, to ensure the models are suitable for risk assessment purposes.

6. Interpretation of Results:

Risk assessment outputs generated by RegTech solutions need to be interpreted correctly to make informed decisions. Interpreting complex risk data and translating it into actionable insights can be challenging for banks, especially when dealing with multiple risk dimensions and interdependencies.

7. System Integration:

Integrating RegTech solutions with existing banking systems and workflows can be a technical challenge. Seamless integration is essential to ensure smooth data flow, real-time risk monitoring, and efficient risk assessment processes.

8. Skill and Expertise Gap:

Implementing and utilizing RegTech solutions for risk assessment requires a skilled workforce with expertise in both banking and technology. Banks may face challenges in acquiring and retaining talent with the necessary skills to effectively operate and leverage RegTech solutions.

9. Cost Considerations:

Investing in RegTech solutions for risk assessment can involve significant upfront costs and ongoing maintenance expenses. Banks need to carefully assess the cost-benefit ratio and ensure that the investment in RegTech aligns with their risk management objectives.

10. Change Management:

Introducing new RegTech solutions for risk assessment may require changes to existing processes, policies, and organizational culture. Change management efforts are necessary to ensure smooth adoption, acceptance, and utilization of the RegTech solutions across the bank.

Benefit of Regtech in Risk assessment

RegTech, or Regulatory Technology, plays a crucial role in risk assessment within the banking industry. Here's how RegTech helps in risk assessment:

1. Automated Data Collection and Analysis:

RegTech solutions automate the collection and analysis of data from various sources, including internal systems, external databases, and regulatory sources. These solutions streamline data gathering processes, ensure data accuracy, and provide real-time insights for risk assessment.

2. Risk Modeling and Scenario Analysis:

RegTech solutions employ advanced risk modeling techniques and scenario analysis to assess potential risks within the banking industry. These tools help banks simulate various scenarios, such as market volatility, credit risk, liquidity risk, or operational disruptions, to evaluate their potential impact on the organization and identify risk mitigation strategies.

3. Compliance Monitoring and Reporting:

RegTech solutions assist in monitoring regulatory compliance by continuously tracking regulatory changes and automating compliance reporting processes. These solutions help banks stay up-to-date with evolving regulations, ensure adherence to compliance requirements, and generate accurate and timely reports for regulatory authorities.

4. Early Warning Systems:

RegTech solutions can incorporate early warning systems that detect emerging risks or unusual patterns in banking activities. By analyzing data in real-time, these systems provide alerts and notifications to risk managers, enabling them to take timely actions and prevent potential risks from escalating.

5. Standardized Risk Assessment Frameworks:

RegTech solutions often provide standardized risk assessment frameworks that help banks assess risks consistently across different business areas. These frameworks align with industry best practices and regulatory guidelines, providing a structured approach to risk assessment and facilitating risk comparisons within the organization and across the industry.

6. Enhanced Data Analytics:

RegTech solutions leverage advanced data analytics techniques, such as machine learning and artificial intelligence, to identify hidden patterns, anomalies, or correlations in banking data. These analytics capabilities enable banks to gain deeper insights into risks and make informed decisions based on data-driven analysis.

7. Streamlined Internal Processes:

RegTech solutions streamline internal processes related to risk assessment, such as risk identification, risk measurement, and risk reporting. By automating these processes, banks can reduce manual errors, improve efficiency, and allocate resources more effectively to manage risks.

8. Real-Time Monitoring and Alerts:

RegTech solutions enable real-time monitoring of key risk indicators and provide alerts and notifications when risk thresholds are breached. This allows banks to respond promptly to potential risks and take necessary actions to mitigate them.

Cryptocurrency:

1. Regulatory Environment Analysis: Understand the regulatory landscape surrounding cryptocurrencies in the relevant jurisdictions. Assess the legal status, regulatory requirements, and guidelines provided by financial authorities regarding cryptocurrency activities.

2. Technology Evaluation: blockchain, to understand its security features, scalability, and potential vulnerabilities. Assess the level of adoption, network stability, and the presence of any known security breaches or hacking incidents.

3. Market Analysis: include factors like market liquidity, volatility, and trading volumes. Monitor market trends, investor sentiment, and news related to cryptocurrencies.

4. Security Assessment: Evaluate the security measures implemented by cryptocurrency platforms, exchanges, and wallets. Assess factors such as authentication mechanisms, encryption protocols, cold storage solutions, and past security incidents. Consider risks related to hacking, phishing attacks, and unauthorized access.

5. Counterparty Risk Assessment: assessing the credibility and reputation of exchanges, wallet providers, and other service providers involved in the cryptocurrency ecosystem.

6. Financial Risk Assessment: Assess factors such as price volatility, market manipulation risks, liquidity risk, and the potential for fraudulent schemes.

7. Operational Risk Assessment: This includes evaluating risks related to transaction processing, network congestion, system outages, and governance practices.

8. Legal and Regulatory Compliance: Assess adherence to applicable regulatory frameworks, including AML, KYC, and consumer protection regulations. Consider risks related to potential regulatory crackdowns, legal uncertainties, and regulatory changes that may impact the cryptocurrency ecosystem.

9. Risk Mitigation Strategies: Include implementing security best practices, diversifying cryptocurrency holdings, utilizing reputable platforms, performing due diligence on counterparties, and implementing risk management tools and protocols.

10. Ongoing Monitoring and Evaluation: Continuously monitor the cryptocurrency landscape, regulatory changes, and emerging risks. Regularly review and update risk assessment procedures and risk mitigation strategies to align with the evolving cryptocurrency environment. Stay informed about new security vulnerabilities and industry best practices.

Forex:

1. Data Collection: The process begins with the collection of relevant data from various sources, including trading platforms, market data providers, regulatory databases, and economic indicators. This data may include historical exchange rates, trade volumes, market volatility, geopolitical events, and regulatory updates.

2. Data Integration and Aggregation: The collected data is integrated and aggregated into a centralized RegTech platform, where it is cleansed, validated, and standardized. This ensures data accuracy and consistency across different sources and formats.

3. Automated Risk Identification: Utilizing advanced algorithms and machine learning techniques, These risks may include market risk, liquidity risk, counterparty risk, operational risk, and regulatory compliance risk. The solution flags any anomalies or deviations from predefined risk thresholds.

4. Risk Scoring and Prioritization: Likelihood, and potential impact on trading activities. The RegTech solution applies predefined risk assessment models or customizable risk scoring methodologies to evaluate and prioritize the risks.

5. Risk Assessment and Analysis: It examines factors such as currency volatility, exposure to different currencies, trading volumes, market liquidity, and regulatory compliance. The solution may also analyze news sentiment, economic indicators, and geopolitical events that could impact currency values.

6. Compliance Monitoring: It alerts traders and risk managers to any non-compliance areas and ensures adherence to anti-money laundering (AML) and know-your-customer (KYC) regulations. Additionally, it helps monitor and manage risks associated with cross-border transactions and regulatory reporting obligations.

7. Real-time Reporting and Dashboards: Real-time reports and interactive dashboards that provide a holistic view of the FOREX risk profile. These reports and dashboards present key risk indicators, risk exposure metrics, currency volatility trends, and visual representations of risk data.

8. Continuous Monitoring and Improvement: Continuous monitoring risks; market conditions, and regulatory changes related to FOREX trading. It adapts to new risk factors and evolving compliance requirements, undergoing regular updates and enhancements to incorporate new functionalities and address emerging risk management needs.

Gaming and Gambling:

It is crucial to adopt a risk-focused strategy to effectively identify and handle the potential risks associated with money laundering and terrorism financing within the industry.

For every individual who registers for sports betting services, a comprehensive screening process should be conducted using sanction lists, politically exposed persons (PEPs) databases, and financial crime records. Additionally, stringent Know Your Customer (KYC) measures must be established, coupled with continuous monitoring of customer transactions. This ensures that the gambling operator avoids penalties and fines resulting from non-compliance.

Customer Due Diligence (CDD)

Customer Due Diligence (CDD) is a crucial process that enables gaming and gambling operators to carefully examine and verify the legitimacy of individuals and businesses during the sign-up process. By implementing CDD, operators can effectively minimize the risks associated with customer onboarding.

When determining the risk score for each user, several factors should be taken into account:

1. Country of origin: The player's country of origin provides insight into the regulatory and legal environment they are subject to.
2. Type of product offered: The specific gambling or gaming product being offered may influence the level of risk associated with a player.
3. Payment methods: The payment methods chosen by the player can indicate the potential for financial crimes or fraudulent activities.
4. Source of income: Understanding the source of a player's income helps evaluate the legitimacy of their funds and assess potential risks.

Based on the risk rating assigned to each player, operators can determine the level of due diligence required for their onboarding process. Once the due diligence process is completed, it

is essential to assess the player's risk score and compare it with their previous scores to accurately evaluate the level of risk involved.

Adopting a structured and practical approach to Know Your Customer (KYC) procedures can assist businesses in better assessing risks when bringing new players onto their platform. Compliance with regulatory requirements should not be underestimated, as it requires dedication and attention to detail.

Enhanced Due Diligence (EDD)

During the process of enhanced due diligence (EDD), it is important to go beyond the usual indicators such as "sources of income" or "sanction country" and pay attention to the following warning signs:

1. Sources of Income?
 - a. In the case of a student who has recently graduated, they are experiencing a significant amount of financial resources, but are struggling with compulsive gambling behavior and evading inquiries.
 - b. On the other hand, in the corporate and professional setting, the individual is responsive to all inquiries and demonstrates a willingness to handle and mitigate risks effectively.
2. Property Records
 - a. Have engaged in any property transactions recently, where significant amounts of cash were involved and cannot be easily traced? This type of customer poses a high risk.
3. Criminal Activity
 - a. Previous involvement in criminal activity
 - b. Being sanctioned for crimes
 - c. have checked against the AML lists

Competitors

Name: Sigmaratings (Analyzed by Mehran)

Website: <https://www.sigmaratings.com/>

Domain: Risk Assessment solution provider

About: Sigma Ratings is a leading AI-driven risk intelligence platform used by global organisations to fight financial crime and make more informed counterparty risk decisions.

We give our clients real-time access to thousands of expertly maintained, up to date data sources. To date, Sigma has organized data on over 1B companies and associated people to make it one of the world's largest, most comprehensive risk analysis databases.

Sigma's data, together with our curated proprietary intelligence, helps modernise compliance workflows and adds additional risk detection insights and context in a way previously unavailable commercially.

Clients:

Qrails <https://qrails.com/>

Brex <https://www.brex.com/>

Barclays <https://home.barclays/>

API Documentation

This documentation would help us how Sigma Ratings assess the risk and classified it into categories.

Response of the Sigma API's request is given below.

```
{
  "id": "e723887d-4e3b-42ee-820c-339602aaa72c",
  "metadata": {
    "created": "2021-02-24T22:25:10.889959978Z"
  },
  "organization_id": "urn:sigma:organization:sigma-ratings",
  "request": {
    "filters": {
      "category": "sigma",
      "threshold": 0.95
    }
  },
  "response": {
    "summary": {
      "score": 71.8,
      "level": "Elevated",
      "detail": {
        "Address": 1,
        "Registration Status": 1
      }
    }
  },
  "results": [
    {
      "match_name": "YARDPOINT SALES LLP",
      "entity_name": "YARDPOINT SALES LLP",
      "aliases": [],
      "facet": "company",
      "strength": 0.9433497536945812,
      "source": "Corporate Registries",
    }
  ]
}
```

```

"indicators": [
  {
    "category": "Registration Status",
    "description": "YARDPOINT SALES LLP has a company status of Unknown",
    "name": "Company status is Unknown",
    "score": 40,
    "source_url": "https://beta.companieshouse.gov.uk/company/OC374526"
  },
  {
    "category": "Address",
    "description": "Yardpoint Sales Llp is located at 175 DARKES LANE,SUITE B, 2ND FLOOR,HERTFORDSHIRE,EN6 1BW,POTTERS BAR, which appears to be associated with Alleged Shell Companies",
    "name": "Address matches Alleged Shell Companies address",
    "score": 70,
    "source_url": ""
  }
],
"locations": [
  {
    "country": "United Kingdom",
    "country_code": "GB",
    "type": "headquarters",
    "source_urls": [
      "https://opencorporates.com/companies/gb/OC374526"
    ],
    "addresses": [
      {
        "address": "175 Darkes Lane Suite B, 2nd Floor, Potters Bar, Hertfordshire, EN6 1BW"
      }
    ]
  }
],
"company_registry": {
  "addresses": [
    "175 DARKES LANE, SUITE B, 2ND FLOOR, POTTERS BAR, HERTFORDSHIRE, EN6 1BW"
  ],
  "founded": null,
  "status": "Inactive",
  "economic_activities": {},
  "incorporation_types": null,
  "lines_of_business": [],
  "corporate_numbers": [

```

```

    {
      "country": "Englang",
      "number": "OC374526",
      "register": "UK Companies House"
    }
  ],
  "ownership": [],
  "subsidiaries": [],
  "telephone": null,
  "website": null
},
"person": null,
"vessel": null
}
]
},
"user_id": ""
}

```

List the available Sigma indicator categories to filter by.

```

{
  "collection": [
    "Enforcement Action",
    "Registration Status",
    "Address",
    "Adverse Media",
    "Know Your Customer",
    "Jurisdiction",
    "Leadership",
    "Line of Business",
    "PEP",
    "Association",
    "Sanctions",
    "State Owned Entity",
    "Transparency",
    "Restricted Entity"
  ]
}

```

Risk Scoring

The Risk Scoring endpoint returns a Sigma Risk score for a given search term.

The Sigma Risk score is calculated using the following criteria:

1. Each Risk Indicator not related to Sanctions and PEPs is applied an Age Discounting rate, this rate reduces 10 points per year based on when the event happened.
2. A squashing/sigmoid function is applied to create Dynamic Capping for the following two boundaries:
 - Based on the indicator category, multiple results of a given Indicator score accumulate at a different rate. For example: 3 PEP results at 50 points accumulate to 54.7 where 3 Adverse Media hits at 40 point accumulate to 40.1 points.
 - A ceiling is applied for each category of indicator, regardless of how many indicators are returned. Example: For 100s of Adverse Media articles, the score can only grow by 10 points for that indicator category.
3. The final risk score is computed as taking the maximum value across all indicator scores (with Age Discounting applied) and then adjusting upward using the composite of Risk Indicators using Dynamic Capping.

The Sigma Risk score range is from: 0 - 100.

Risk Level classification.

Elevated: Overall score above 70. At least one high-risk AML typology included in the risk indicators found in search.

Standard: Overall score greater than zero and less than 70. At least one risk indicator found in search.

Neutral: Overall score of zero with at least one description found. Sigma has found data that may indicate line of business.

Unidentified: No indicators or descriptions found in search. Minimal data identified across Sigma sources. Results may include location data via a corporate registry, but no line of business information available.

```
{
  "audit_id": "753a3714-2e3d-4a5b-b99e-5c802cb4ac16",
  "entity_urn": "urn:sigma:entity:25d9d8cc-930d-423a-b717-3821b1441047",
  "results": [
    {
      "description": null,
      "indicators": [
        {
          "category": "Address",
```

```

      "description": "175 Darkes Lane Suite B, 2nd Floor, Brosnan House, Potters Bar, Hertfordshire, England, EN6 1BW, UK, United Kingdom",
      "name": "Address matches Alleged Shell Companies address",
      "score": 70,
      "source_urls": [],
      "urn": "urn:sigma:indicator:qRB69Boi1k-eNZYbpwMDwwKvU3sCeQvJV_7-29CS7zw="
    }
  ],
  "locations": [
    {
      "addresses": [
        "175 DARKES LANE, SUITE B, 2ND FLOOR, POTTERS BAR, HERTFORDSHIRE, EN6
1BW"
      ],
      "country": "United Kingdom",
      "country_code": "GB",
      "source_urls": null,
      "type": "Operating"
    }
  ],
  "match_name": "Yardpoint Sales Llp",
  "entity_name": "Yardpoint Sales Llp",
  "aliases": [],
  "source": {
    "key": "sigma_id",
    "match_id": "Aphm-9QnsXBdPKg6Dx4O5Q",
    "name": "Sigma ID",
    "match_name": "Yardpoint Sales Llp",
    "last_checked": "2021-09-01T21:32:57Z"
  },
  "strength": 1,
  "facet": "company",
  "company_registry": {
    "addresses": [
      "175 DARKES LANE, SUITE B, 2ND FLOOR, POTTERS BAR, HERTFORDSHIRE, EN6
1BW"
    ],
    "founded": null,
    "status": "Inactive",
    "lines_of_business": [
    ],
    "corporate_numbers": [
    ],
    "ownership": [],

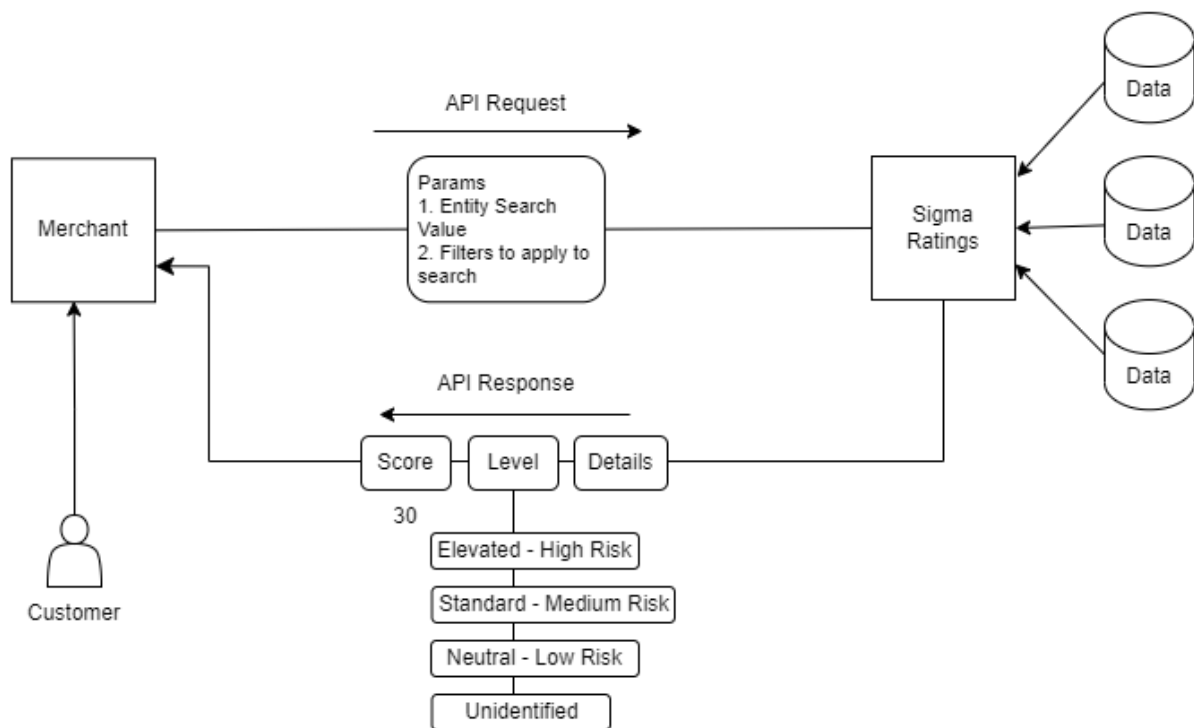
```

```

    "subsidiaries": []
  },
  "person": null,
  "vessel": null,
  "potential_ubo": null
}
],
"summary": {
  "detail": {
    "Address": 1
  },
  "level": "Elevated",
  "score": 70.7
}
}

```

Sigma Ratings Workflow



Flagright Competitor Analysis by Anand Kumar and Zoraiz khan

Flagright protects financial institutions from financial crime with risk-based & real-time transaction monitoring, case management, sanctions screening, and ID verification products. It's a holistic infrastructure solution to stop fraud, money laundering, and terrorism financing.

Website: <https://flagright.com/>

Industry: Financial Services

Specialties:

Startups, Fintech, Fraud Prevention, AML Compliance, Regulatory Licensing, Case Management, KYC, Sanctions Screening, Transaction Monitoring, Blockchain Analytics, API, Anti-money Laundering, Risk Management, Payments, Real-time Processing, ID verification, KYB, Fraud Protection, Neobank, Rules engine, and financial institution

Product: Customer Risk Assessment Engine

Automate customer risk assessment, seamlessly calculate customer risk for individuals and merchants. Combine onboarding & behavioral risk using Flagright's dynamic scoring engine.

Risk Scoring:

The process of calculating a numerical value that indicates the severity of a risk, based on a number of parameters.

Risk scoring: there are two categories of data to consider:

1. Quantitative: numerical
Quantitative data are mostly concerned with assigning monetary values to risk components.
2. Qualitative: descriptive
Qualitative risk scoring uses available data to arrive at a numerical value that can be used to quantify the likelihood of a risk event and the amount of money at stake.

The total severity of a risk is determined using a more subjective assessment of risk occurrence likelihood (probability) against the potential severity of the risk consequence (impact) via qualitative analysis.

Type of focused Risks:

1. Fraud Risk
2. Anti-money laundering and countering terrorist financing
3. Merchant Risk
4. Regulatory risk
5. Consumer Risks
6. Cybersecurity and Data Privacy

7. Credit risk and operational risk
8. Outsourcing Risk

- Cross-border transactions are typically conducted at a high transactional speed.
- New risks are continually emerging as a result of the rapid pace of change and innovation.
- A customer may be assigned a medium risk score upon onboarding, but if they engage in a sequence of risky activities, their score may rise to high risk over time. Because customer risk can shift rapidly, financial institutions should use systems that analyze and update scores on a regular basis.

The risk score is calculated using the following factors:

- Customer vetting: this is crucial to due diligence because it helps financial institutions regularly ensure that each customer's commercial transaction is legal within their jurisdiction. Regulations mandate that each financial institution's customer be subjected to ongoing screening against numerous watchlists.
- Demographic check: checking variables such as nationality, occupation, date of birth, length of stay with the financial institution, residence and mailing addresses, credit score, etc.
- Transactions: financial institutions should examine their customers' sources of income and determine whether they make sense in terms of their occupation or location. This involves determining whether transactions are appropriate in light of the customer's risk profile.
- Operational trends: financial institutions should review any fraud notices, suspicious activity reports (SARs), suspicious transaction reports (STRs), or other red flags relating to a customer's behavior.

API:

<https://docs.flagright.com/docs/flagright-api/8c06ae6a3231a-entities-and-relationships-in-the-api>

```
curl --request POST \  
  --url https://sandbox.api.flagright.com/transactions \  
  --header 'Content-Type: application/json' \  
  --data '{  
    "transactionId": "7b80a539eea6e78acbd6d458e5971482",  
    "type": "DEPOSIT",  
    "destinationUserId": "9350a2611e0771cba03310f74bf6",  
    "originAmountDetails": {  
      "country": "DE",  
      "transactionAmount": 800,  
      "transactionCurrency": "EUR"  
    },  
  },
```

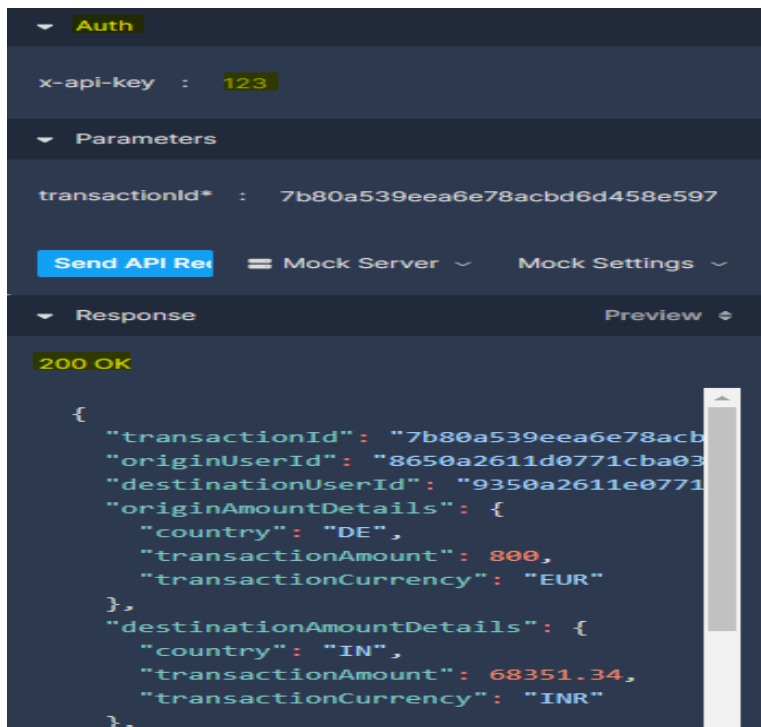
```

"destinationAmountDetails": {
  "country": "IN",
  "transactionAmount": 68351.34,
  "transactionCurrency": "INR"
},
"timestamp": 1641654664,
"originPaymentDetails": {
  "method": "SWIFT",
  "swiftCode": "AAAABB11CC",
  "accountNumber": "32213423221",
  "accountType": "SAVINGS"
},
"destinationPaymentDetails": {
  "method": "WALLET",
  "walletId": "20ac00fed8ef913aefb17cfae1097cce"
}
}

```

Previous submission by Anand Kumar:

<https://drive.google.com/file/d/1NGqEOHxiPRY4yrnlzjc06A-2UTfpURYv/view?usp=sharing>



Risk factors

Create risk level parameters to score your customer

Country of residence

United States of America

Very Low

Low

Medium

High

Very High

Russia

Very Low

Low

Medium

High

Very High

Variable

Card

Wallet

Very Low

Low

Medium

High

Very High

Bank account

Very Low

Low

Medium

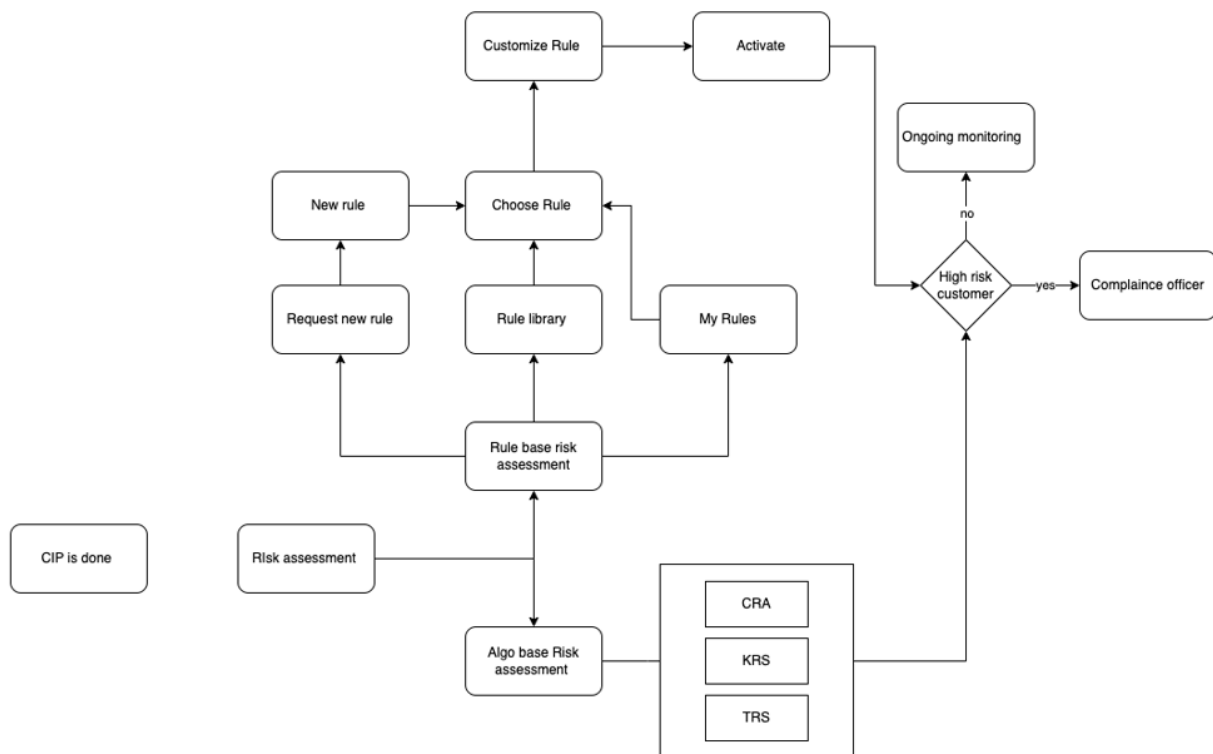
High

Very High

Risk algorithms

- Customer risk assessment (CRA)**
 Dynamic aggregate score of your customer based on their KRS and ARS.
- KYC risk score (KRS)**
 Risk score of your customer's profile. KRS changes slowly over time.
- Transaction risk score (TRS)**
 Risk score of your customer's transaction activity. ARS changes corresponding to user activity.

Workflow:



Name: Arctic Intelligence (Analysed by Talha Zahoor)

Website: <https://arctic-intelligence.com/platforms/risk-assessment>

Domain: Risk Assessment solution provider

About: Risk Assessment Platform is a market-leading solution, purposefully designed by subject matter experts to allow regulated businesses to take control of the enterprise-risk management process. By combining the latest technology with industry best-practice thinking into an easy-to-use and highly configurable platform, you will be able to understand your risk profile and ensure the most effective controls are applied to reduce your organizations risk exposure.

By answering some simple questions about your business, our step-by-step process provides you with the following outputs:

Configure

- Bring your own content or
- Buy content modules
- Risk libraries - AML/CFT, Anti-bribery,
- Fraud, IT/Cyber and Controls library
- Select risk rating methodology
- Calibrate / configure risk platform

Conduct

Define assessment context

- Conduct risk analysis
- Conduct controls testing
- Document risk treatment activities
- Document actions and issues

Report

- Draft executive summary report
- Draft key findings and observations
- Make recommendations
- Seek management responses
- Edit, review and publish the report

Analyze

- Risk dashboards
- Operational dashboards
- Breach and incident dashboards
- Data analyser, benchmark compliance
- Enterprise data analytics

Implement

- Then simply review and refresh, returning to the first step

Workflow:

Its workflow in demo and application is attached.

<https://drive.google.com/drive/folders/1zqQ0l3SUCoBRNK68Ut9ZlItlQH1K35TN?usp=sharing>

Ispiral (Analyzed by Namain Nazir)

Overview:

We help firms to earn the confidence in managing AML, KYC and Financial Crime Risks. Our aim is to fight Financial Crime, Fraud, human and drugs trafficking at global scale.

Products:

- Risk Assessment
- AML Transaction Monitoring
- Transaction Screening
- Client Life Cycle Management
- PEPs, Sanctions and Adverse Media Screening
- Digital Identity Verification and Screening

Risk Assessment:

Key features of Compliance Risk Assessment:

- Multijurisdiction & Multi Regulator parameterisation.
- Manage several Regulation groups within the same AML instance.
- Qualitative and quantitative criteria used for risk scoring.
- Customisable risk factors which include country risk, delivery channel risk, product / service risk, customer risk.
- Set up your own Risk Evaluation Levels (Low, Low-Medium, Medium, Medium-High, High, Extremely High).
- Set up dynamic criteria parameters that automatically assess clients as high risk (e.g. PEP, High Risk Country parameters).

Benefits of Risk Assessment:

- Establishing AML standards based on global best practices and the latest guidance and regulation.
- Providing Automation which aggregates multiple risk categories and provides seamless updates to address any regulatory changes.
- Utilizing qualitative and quantitative data features which score risk and provide a comprehensive money-laundering risk profile.

- Clearly communicate your risk to stakeholders and regulators while eliminating the need for cumbersome manual reporting.

Fraud Risk (Deprecated)

The Fraud Risk Service provides:

- Profiling and Validation of IP Addresses
- Emails or Disposable Email Validations
- Geo-Location Analysis
- Anonymous Proxy Validations
- Risk Scoring.

The Fraud Risk Service returns:

- The Risk Score
- A broad range of data points that can be used to evaluate the risk.

The Risk Score range is between 0.01% and 99%. A high Risk Score indicates that there is a high possibility that the transaction is fraudulent. Additionally, a Risk Score of 0% is never returned since all transactions have the possibility of being fraudulent. Likewise, a Risk Score of 100% is never returned for the corresponding reason.

API Code:

```
{
  "device": {
    "ipAddress": "2001:db8::ff00:42:8329",
    "userAgent": "Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/41.0.2272.89 Safari/537.36",
    "acceptLanguage": "en-US,en;q=0.8",
    "sessionAge": 3600.5,
    "sessionId": "c2ffa1b7-f5c5-4702-beb2-4254794fe391"
  },
  "event": {
```

```
"transactionId": "txn3134133",
"shopId": "s2123",
"time": "2012-04-12T23:20:50.52Z",
"type": "purchase"
},
"account": {
  "userId": "3132",
  "usernameMd5": "570a90bfbf8c7eab5dc5d4e26832d5b1"
},
"email": {
  "address": "mail@gmail.com",
  "domain": "maxmind.com"
},
"billing": {
  "firstName": "John",
  "lastName": "Smith",
  "company": "iSPIRAL",
  "address": "Demo Address 1",
  "address2": "Demo Address 1 2",
  "city": "Larnaca",
  "region": "CT",
  "country": "CY",
  "postal": "1111",
  "phoneNumber": "11111111",
  "phoneCountryCode": "+357"
},
"shipping": {
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  "lastName": "Smith",
  "company": "Company Name",
  "address": "Company Address 1",
  "address2": "Company Address 2",
  "city": "Larnaca",
  "region": "CT",
  "country": "CY",
  "postal": "AAA111",
  "phoneNumber": "1111111111",
```



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"phoneCountryCode": "+357",
"deliverySpeed": "same_day"
},
"payment": {
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  "wasAuthorized": true,
  "declineCode": "insufficient_funds"
},
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  "last4_Digits": "1111",
  "token": "OQRST14PLQ98323",
  "bankName": "Bank of America",
  "bankPhoneCountryCode": "+357",
  "bankPhoneNumber": "48559966345",
  "avsResult": "Y",
  "cvvResult": "N"
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  "currency": "USD",
  "discountCode": "FIRST",
  "affiliateId": "af12",
  "subaffiliateId": "saf42",
  "referrerUri": "\"http://www.google.com/\"",
  "isGift": true,
  "hasGiftMessage": true
},
"shoppingCart": [
  {
    "category": "pets",
    "itemId": "ad23232",
    "quantity": 2,
    "price": 10
  }
],
"customInputs": {
```

```

        "aCustomInputKey": "NSC0083121",
        "anotherCustomInputKey": true
    }
}

```

Sectors:

- Banking and Other Financial Services
- Investment Firms
- Payments
- Forex and Brokers
- ICOs(Crypto)
- Gaming and Gambling
- Insurance Firms
- Accounting, Legal and ASPs
- High Risk Cooperates

Governance Risk and Compliance:

- Risk Registry and Assessment
- Internal Audit and Management
- Compliance Management
- Incident and Loss Management
- Regulatory Reporting

Name: Feature Space Company

Website: <https://www.featurespace.com/>

Domain: Risk Assessment solution provider

About: Featurespace is a company that specializes in fraud prevention and risk management solutions. Their advanced technology leverages machine learning and behavioral analytics to identify and prevent fraud in real-time.

Specialties

Fraud Prediction and Prevention, Finance, Banking, and Insurance, Security and Risk Management, Machine Learning, Adaptive Behavioural Analytics, AML, Money Laundering Prevention, Financial Crime Prevention, Payment fraud prevention, Anti Money-Laundering, Adaptive Behavioral Biometrics, Adaptive Behavioral Analytics, AI, Artificial Intelligence , Bayesian Statistics, and Adaptive Rules and Models for Fraud Prevention

Here are some key features of Featurespace's offerings:

1. Adaptive Behavioral Analytics: Featurespace's platform utilizes adaptive behavioral analytics to detect anomalies and patterns in individual and collective behavior. It continuously

learns and adapts to changing behaviors, allowing it to identify emerging threats and suspicious activities.

2. Real-time Fraud Detection: The company's solution enables real-time fraud detection across various industries, including banking, insurance, gaming, and e-commerce. By analyzing vast amounts of data in real-time, it can identify and flag fraudulent transactions as they occur, minimizing losses and protecting customers.

3. Machine Learning Models: Featurespace employs advanced machine learning algorithms and models to detect anomalies and fraud patterns. These models are trained on large datasets to understand normal behavior and can identify deviations that indicate fraudulent activity.

4. Case Management and Investigation: The platform offers case management tools that help investigators streamline their workflow and efficiently manage fraud cases. It provides visualizations, alerts, and collaboration features, enabling investigators to prioritize and investigate suspicious activities effectively.

5. Risk Assessment and Scoring: Featurespace's solution also includes risk assessment and scoring capabilities. It assigns risk scores to individual transactions or entities, allowing organizations to prioritize their response based on the level of risk. This helps in focusing resources on high-risk cases and reducing false positives.

6. Continuous Monitoring and Adaptive Controls: The system continuously monitors transactions and behaviors, adapting to evolving patterns and techniques used by fraudsters. It can dynamically update rules and controls, ensuring that the system stays effective in detecting new and emerging fraud threats.

7. Regulatory Compliance: Featurespace's solution helps organizations comply with regulatory requirements by providing advanced fraud prevention and risk management capabilities. It assists in meeting various regulatory standards and guidelines, such as those set by financial regulatory authorities.

Risk Identification Techniques	
Technique	Description
Risk gap analysis	Risk SME produces a list of common risks and uses these as a discussion point in risk reviews to facilitate risk thinking and identification
Workshops & brainstorming	Collection and sharing of ideas that could impact the objectives of the project/objective.
Audits and Inspections	Physical inspection of premises and audits of compliance with established systems and procedures
SWOT analysis	Strength's weaknesses opportunities Threats (SWOT)
PESTLE analysis	Political, Economic, Social, Technological, Legal & Environment

Risk Assessment Techniques	
Technique	Description
Questionnaires and checklists	Use of structured questionnaires and checklists to collect information that will assist with the recognition of the significant risks.
Workshops and brainstorming	Collection and sharing of ideas at workshops to discuss the events that could impact the objectives, core processes or key dependencies.
Inspections and Audits	Physical inspections of premises and activities and audits of compliance with established systems and procedures.
Flowcharts and dependency analysis	Analysis of the processes and operations within the organisation to identify critical components that are key to success.

Case Studies:

1. Cambridge-based company Featurespace has emerged as one of the winners in the International PETs challenge, a transatlantic competition aimed at promoting privacy-enhancing technology solutions to combat financial crime. The challenge was launched by the UK and US governments during President Biden's second Summit for Democracy. Featurespace's machine learning technology, designed to fight online financial fraud, achieved the highest accuracy score in the UK competition. The company's solution combined different privacy-enhancing technologies to enable AI models to make better predictions without compromising sensitive data. Featurespace's participation in the challenge allowed them to develop world-leading privacy-enhancing technologies, showcasing their expertise in machine learning and financial payments. The collaboration between the UK and US will continue to advance responsible innovation in privacy-enhancing technologies, with further plans for joint initiatives and collaborations.
2. UK-based fraud prevention company Featurespace has been granted two patents for its technology aimed at combating financial crime and fraud in the payments industry. The patents cover Featurespace's Fragmentation Engine and Sandbox Layered State, which enable real-time risk scoring interventions and the addition of new behavioral elements to existing profiles without disrupting processing flows. The technology addresses the need for quick decision-making, up-to-date behavioral profiles, and robustness within the global payment flow. By leveraging these patented solutions, Featurespace aims to reduce instances of fraud and financial crime in real time, contributing to the fight against money laundering and supporting economic growth. The patents are designed for use by regulated financial services, payment providers, banks, and businesses in compliance with legal and regulatory frameworks such as the EU's Artificial Intelligence Act and the Bank of England's regulations on AI and machine learning.

Workflow

