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Federal Emergency Management Agency: Hurricane Disaster Resource Allocation

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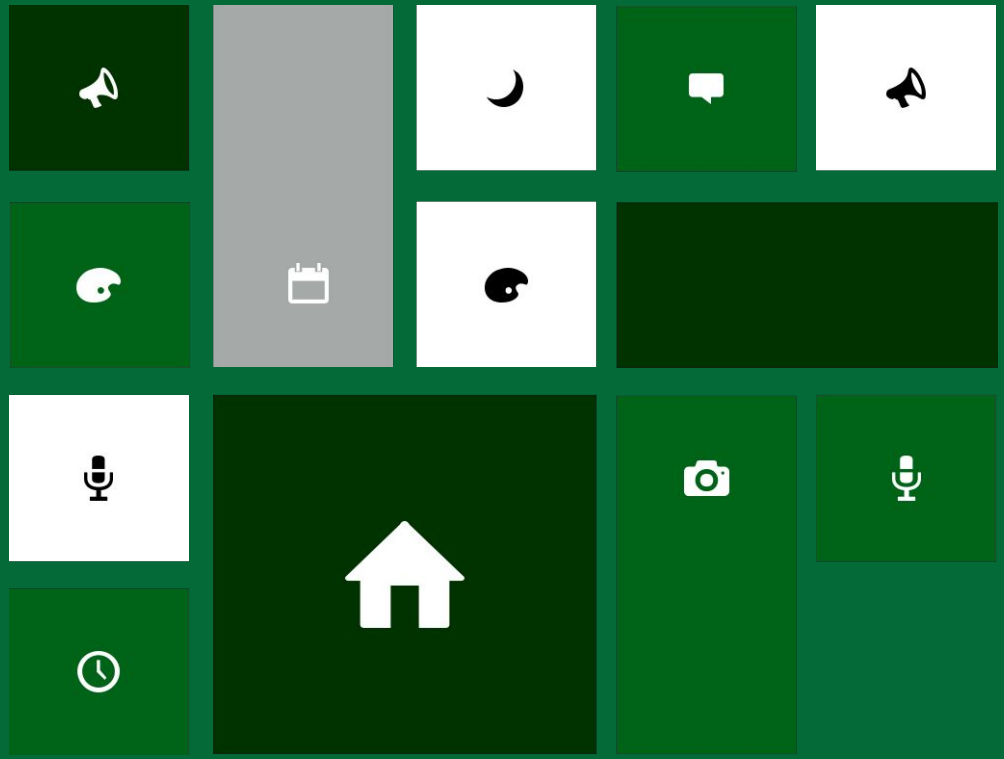
Approach



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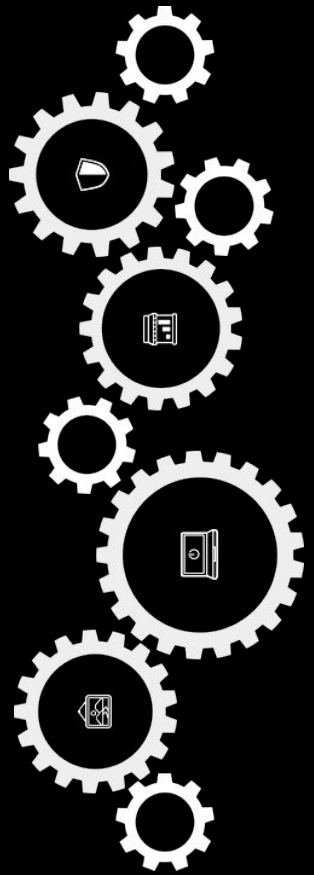

What's the problem?

FEMA's current process is incredibly flawed due to its lack of transparency and inability to keep up with the now.

FEMA wishes to be human centric in all of their future programs, protecting the people and resources during any natural disaster is FEMA's overarching mission.

If FEMA wants to become more efficient, they have to utilize new technological advancements out there today.

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What we can do to help?

Proposal:
Using a decentralized, peer to peer, system we can offer a real-time, human-centric, technologsolution.

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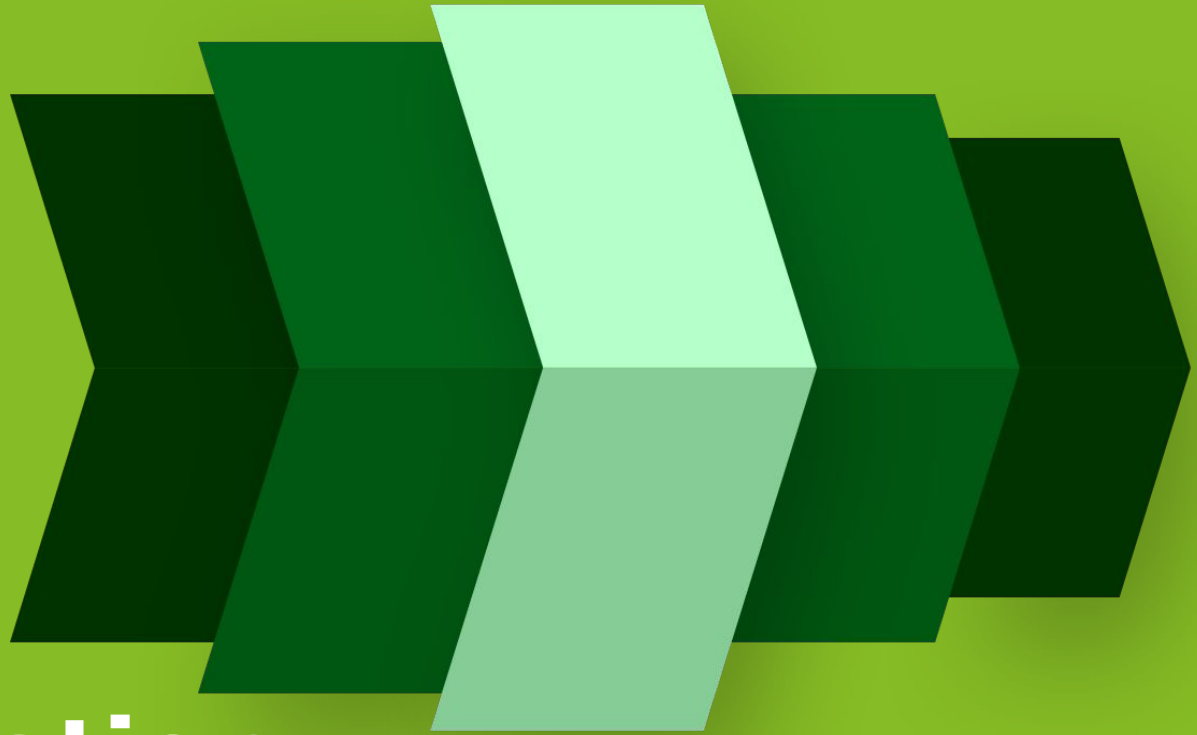
Keeping up with the now and updating in real time

- Using systems that support real-time data, we can efficiently decrease the risk of fraud and increase automation of records.



Solution & Implementation

A New System : Blockchain Technology

SOLUTION

FEMA can implement a real-time public network to increase efficiency and transparency in its current distribution process. By implementing Blockchain into FEMA's current structure, we

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What's the issue?

FEMA isn't allocating it's financial resources in the best ways possible.

- Funds aren't enough, every penny counts!
- People are buying flood insurance but they're not receiving enough money.
- Third party private insurance companies are taking the cut. (400$ million profit in 2013)

FEMA isn't able to keep up regarding logistics

- Logistics Supply Chain Management Systems cannot automatically implement partner's information systems.
- Required manual input into portal to track shipments

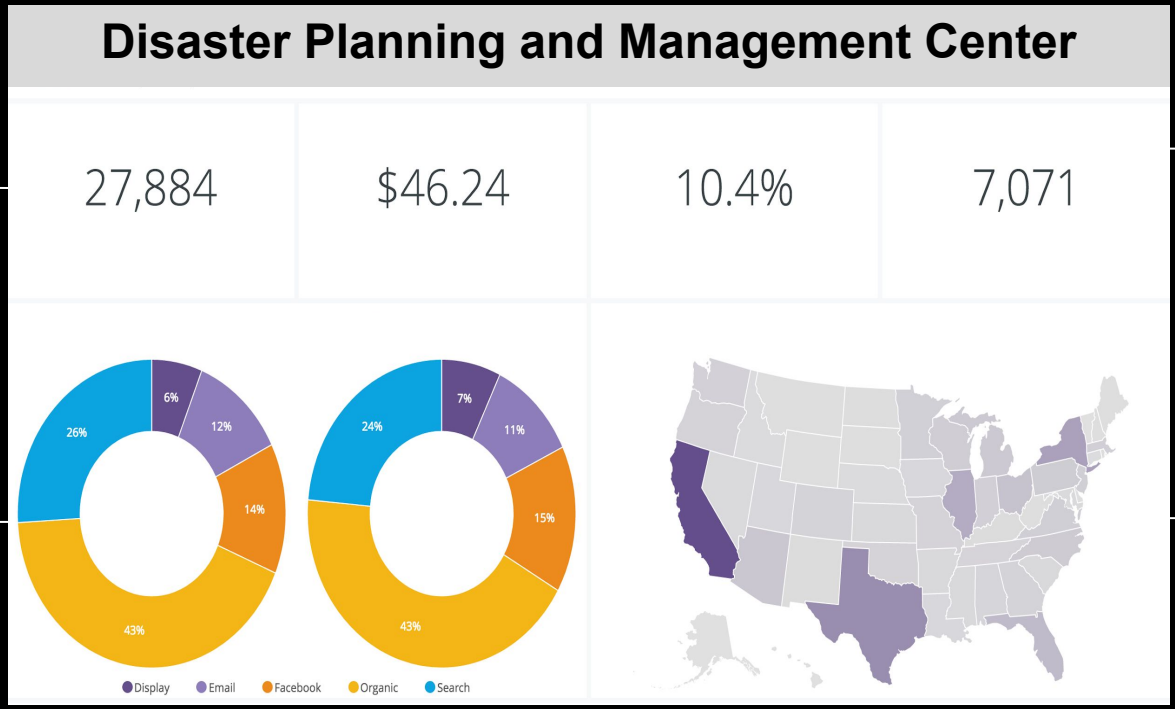
SCMS Auto Info - Interface System

Projected disaster relief funds

Funds already spent

Estimated emergency supplies

Severity distribution



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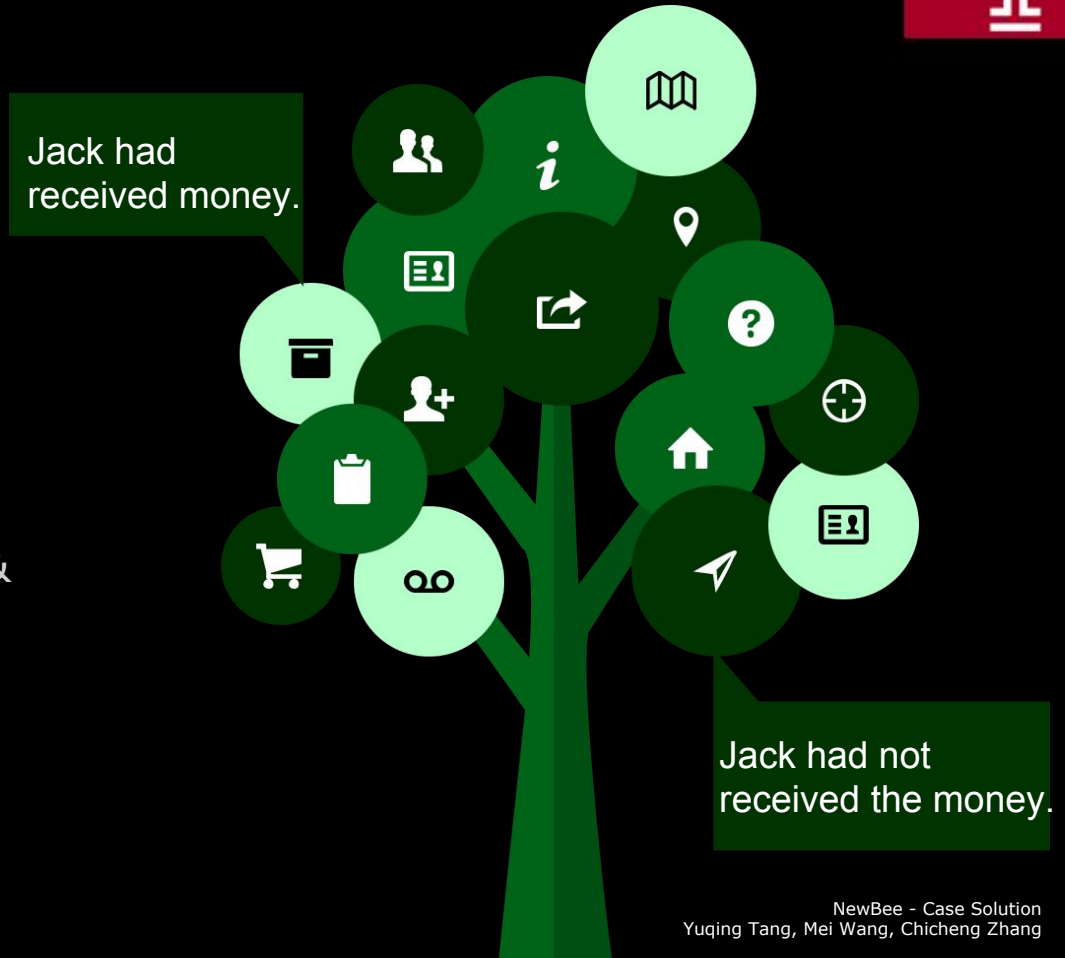
SCMS Auto Info Implementation

- Information Validation
  Using cross-comparison analysis, outsourcing the solution development.
- BlockChain Transaction & Funds Relief Monitoring



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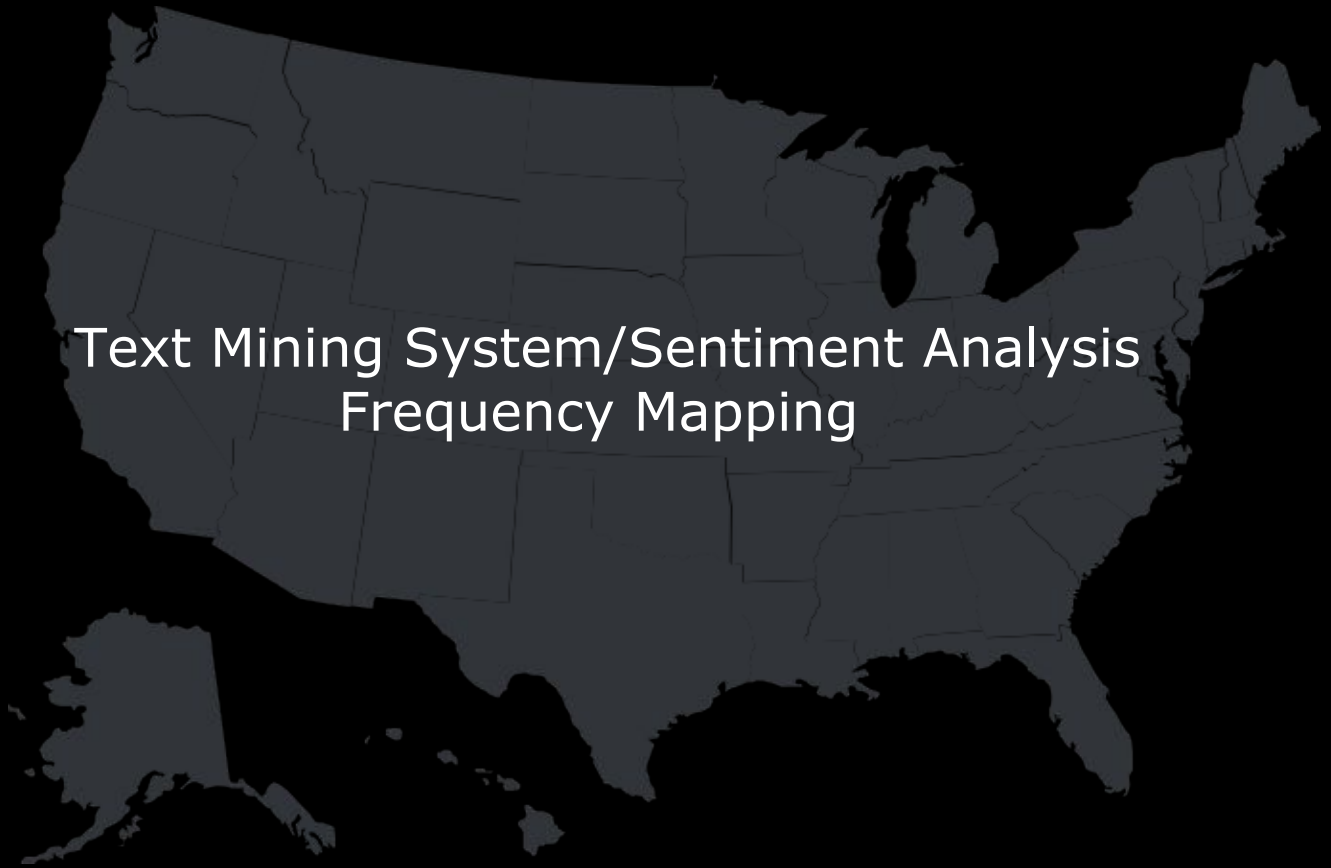

Text Mining System/Sentiment Analysis Frequency Mapping

Using text mining on social media to swiftly identify the needs of people under influence before tragedy happen.

Text mining technology can help us better prioritize the support in different area.

Data Management - New Credit Rating System

- By applying the credit rating system, we could sort the people affected by the disaster into four groups. Based on their credit score, we can have a first step to validate the source of their claim. How trustworthy are they?

1

Low Trust

2 times of resource

2

Average

1 times of resource

3

High Trust

0.5 times of resource

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Implementation Strategies

Pilot Approach

1 year trial in Florida

Extend to the entire East Coast within 3 years

Extend to the whole country within 5 years

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Disaster Management

Pre-disaster:

- Predicting the disaster range.
- Optimizing financial budget.
- Identify the supported needed.
- Planning a better route to target location or airplane drop off using drones.

Post-disaster:

- Connecting to the local warehouse closest to the predicted affected area.
- Calculating number of machine available to work in affected area.
- Using drones cooperated with third party to assess the level affected by disaster. (e.g. with drones, 3 households per hour; without drones, 3 households per day)

SWOT of Blockchain for FEMA (What are the Pros and Cons)

- This technology will kill “the middle-man”, private companies employed by FEMA will lose their jobs.
- Time for adjustment needed, most people don’t UNDERSTAND what is blockchain?

- Lower cost, blockchain technology is known to save money for businesses. (i.e IBM, Walmart etc using)
- Easier way to rapidly increase the amount of insurance payout money using the “private key”.
- Help increase validity of each claim by using the technology and peer to peer system to have the people in the area validate the damage claim for each household.

Source:
Note:

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Potential Risk By Applying BlockChain

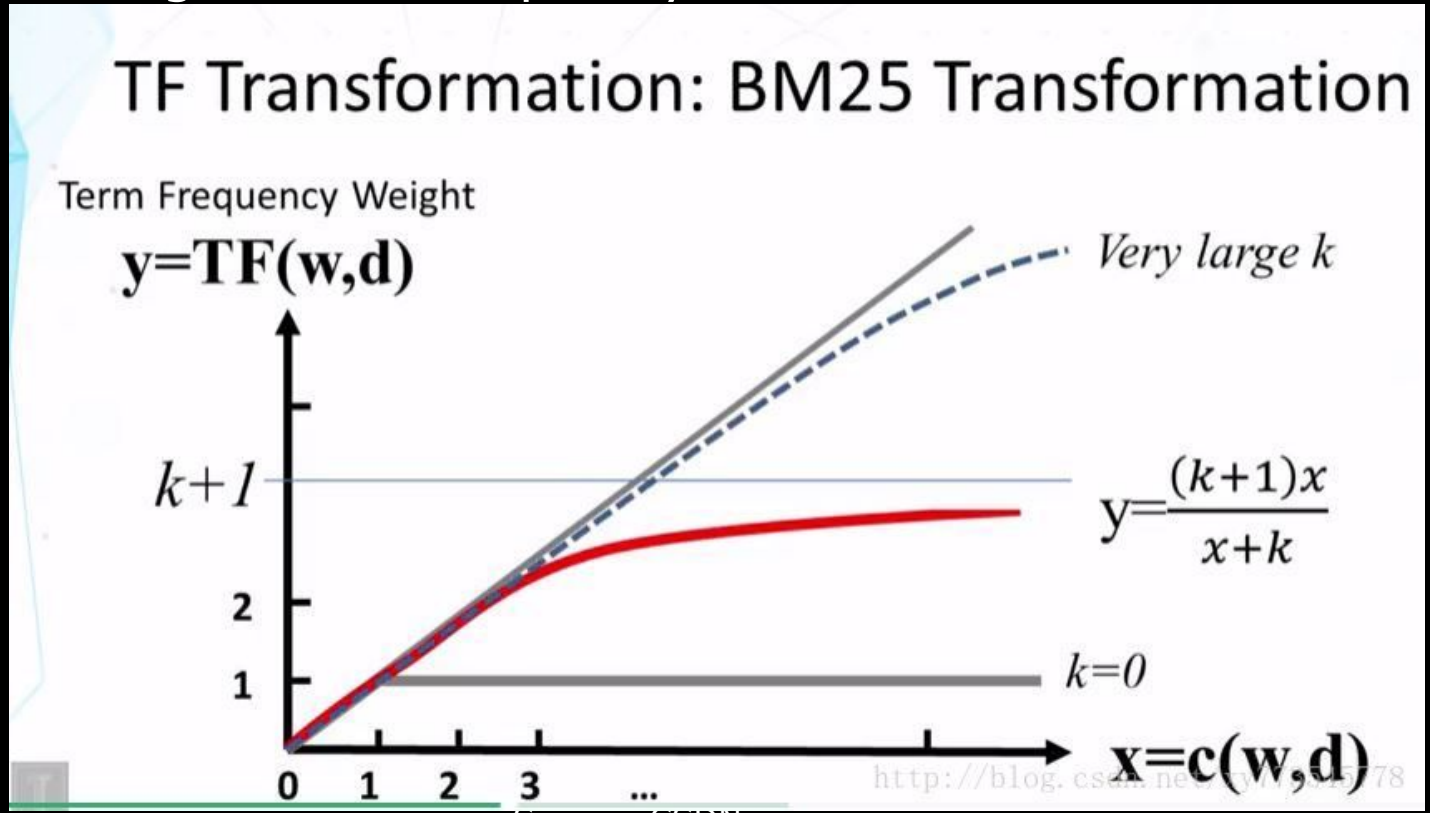
- Standard Risk
- Value Transfer Risk
- Smart Contract Risk
- Due Diligence Investigation Risk

Appendix

Appendix

- Text Mining
- Sentiment Analysis
- Frequency Mapping
- BlockChain Survey
- BlockChain Pros & Cons
- Risk Management Framework

Text Mining - Term Frequency



Source: CSDN

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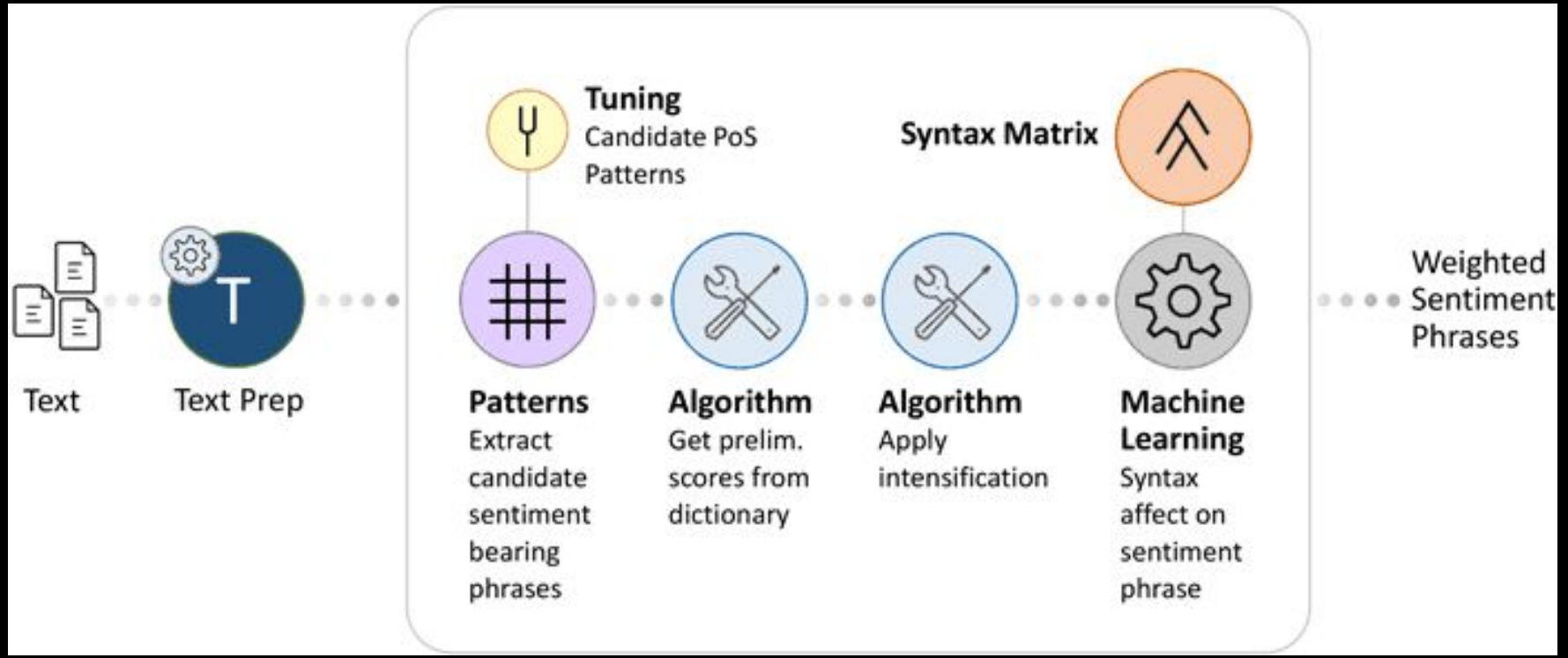
Sentiment Analysis



Source: Lexalytics

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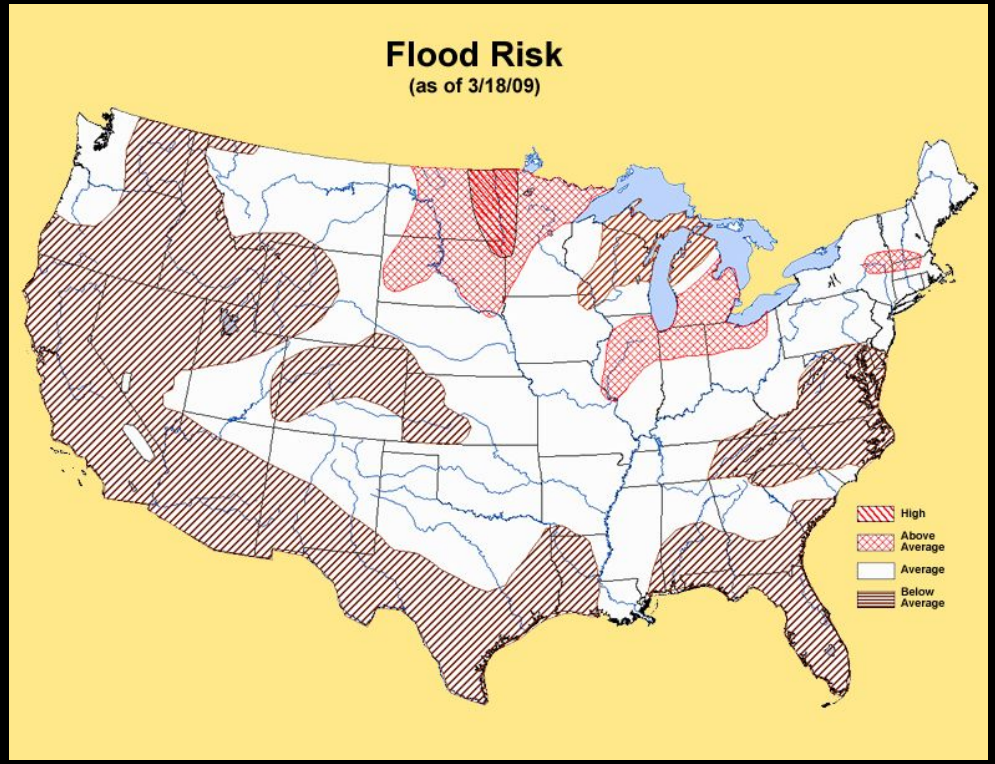
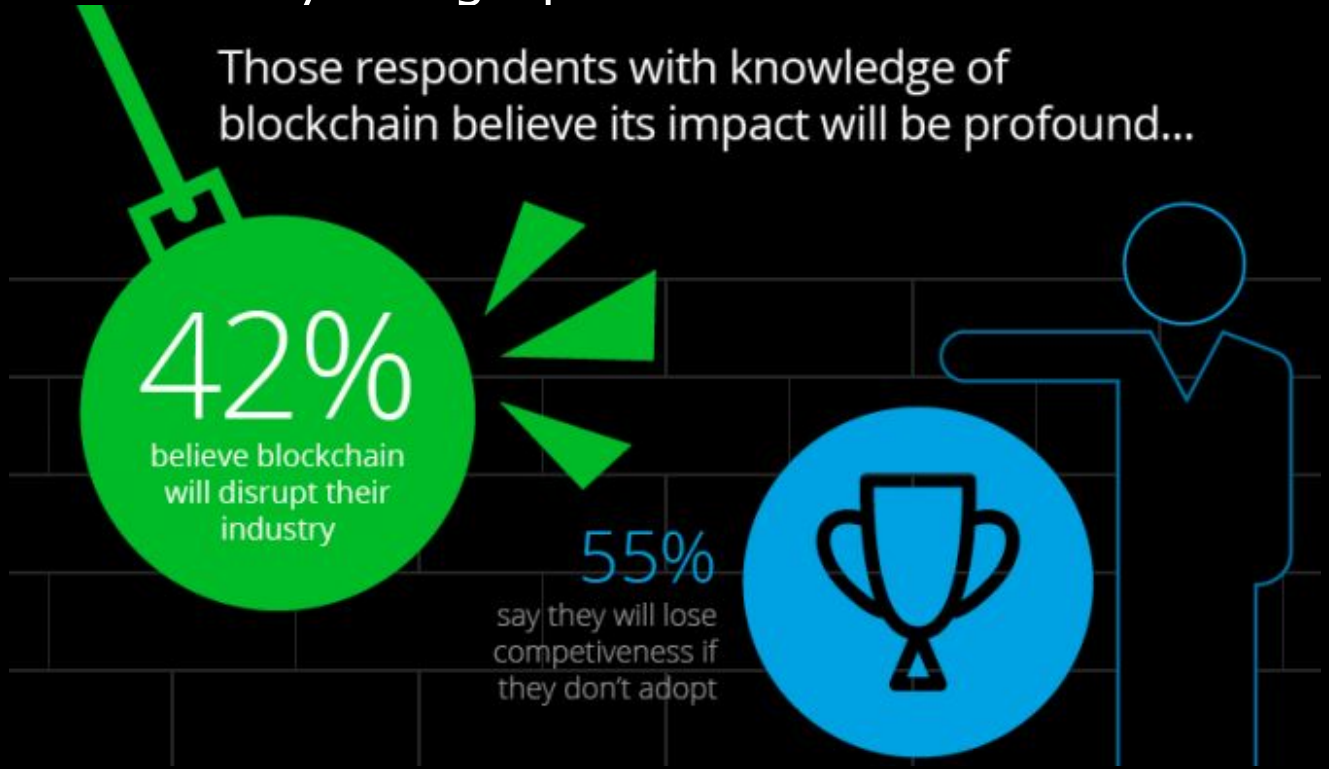
Frequency Mapping



Source: NOAA

BlockChain Survey Infographics

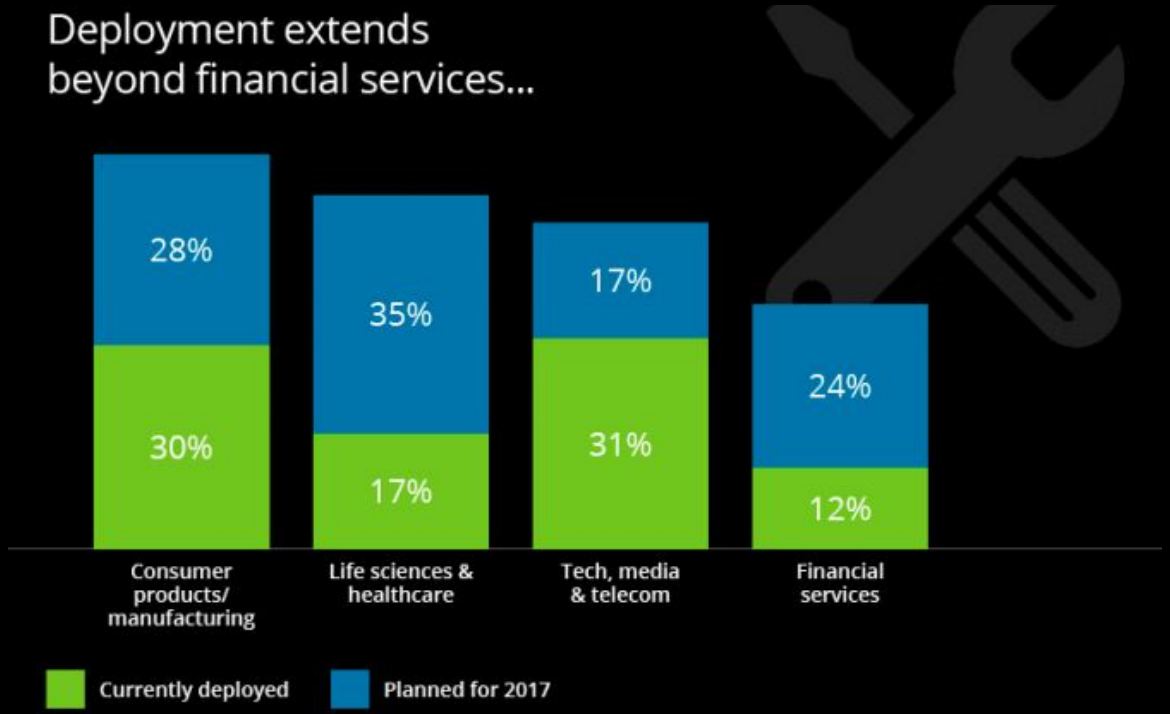


Source: Deloitte BlockChain Survey 2017

BlockChain Survey Respondent Investment

Source: Deloitte BlockChain Survey 2017

BlockChain Survey Infographics



Source: Deloitte BlockChain Survey 2017

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Solution: What is blockchain?
Pros and Cons

Pro's	Con's
Anything of value can be transferred and saved safely and confidentially - without unlawful alteration	Scammers and other seedy characters can use the anonymity to their advantage to do evil
Transactions are verifiable by a vast, peer-to-peer global network	Hacks and manipulation can still occur
Cryptocurrencies are not able to be "frozen" in the case of economic crisis (such as your money in the bank would be)	The majority of governments, offices, retailers, and everyone who deals with money, do not understand, let alone use / accept cryptocurrencies as valid payment.
There will no longer be the need for intermediaries such as banks, lawyers, government, etc.	Many people are currently employed in institutions that serve as intermediaries… there will certainly be a lot of resistance
Transactions are irreversible.	Transactions are irreversible.
1 Bitcoin is (as of this publication) worth $1252 USD, and has increased in value over time	Behind the scenes, there may be trouble with bitcoin, and there are rumors of it splitting into two separate cryptocurrencies

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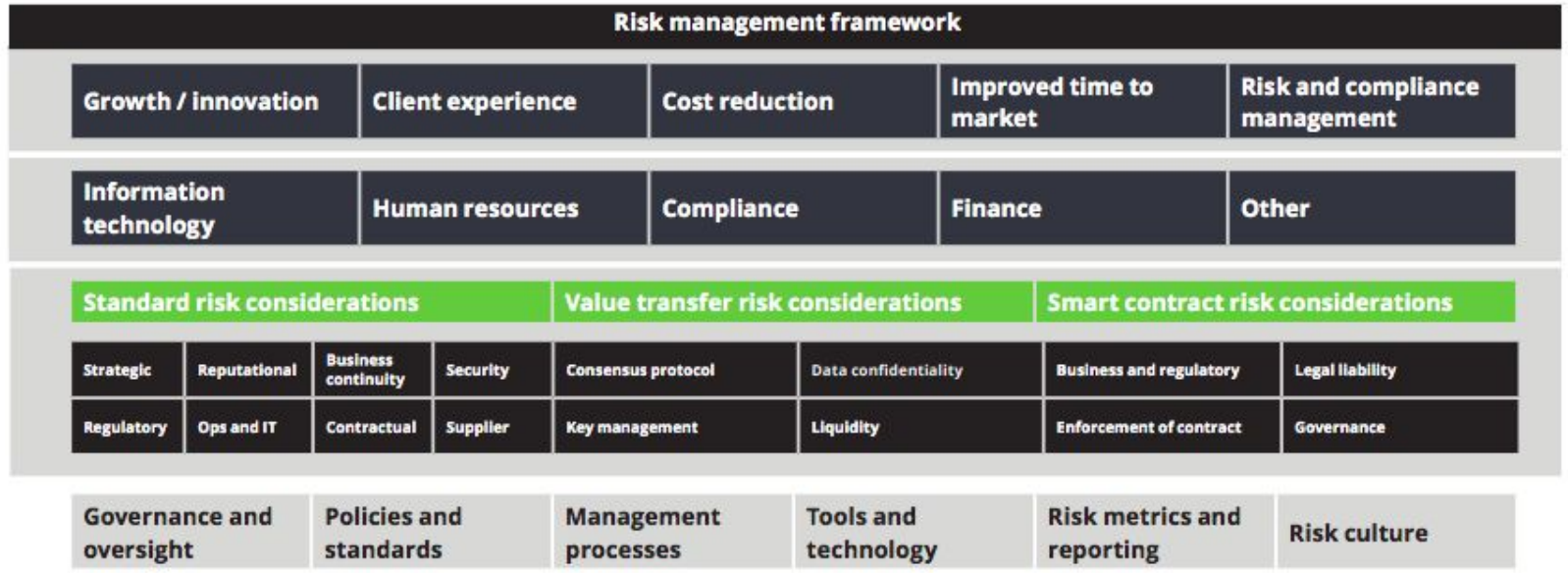
Risk Management Framework

Components of an effective blockchain risk management framework



Source: Deloitte BlockChain Survey 2017

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Thank you

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