ANNUAL MEETING

November 9-12, 2020 • Online Event

Risk Agility

- Risk Intelligence
- Action Orientation
- Adaptability

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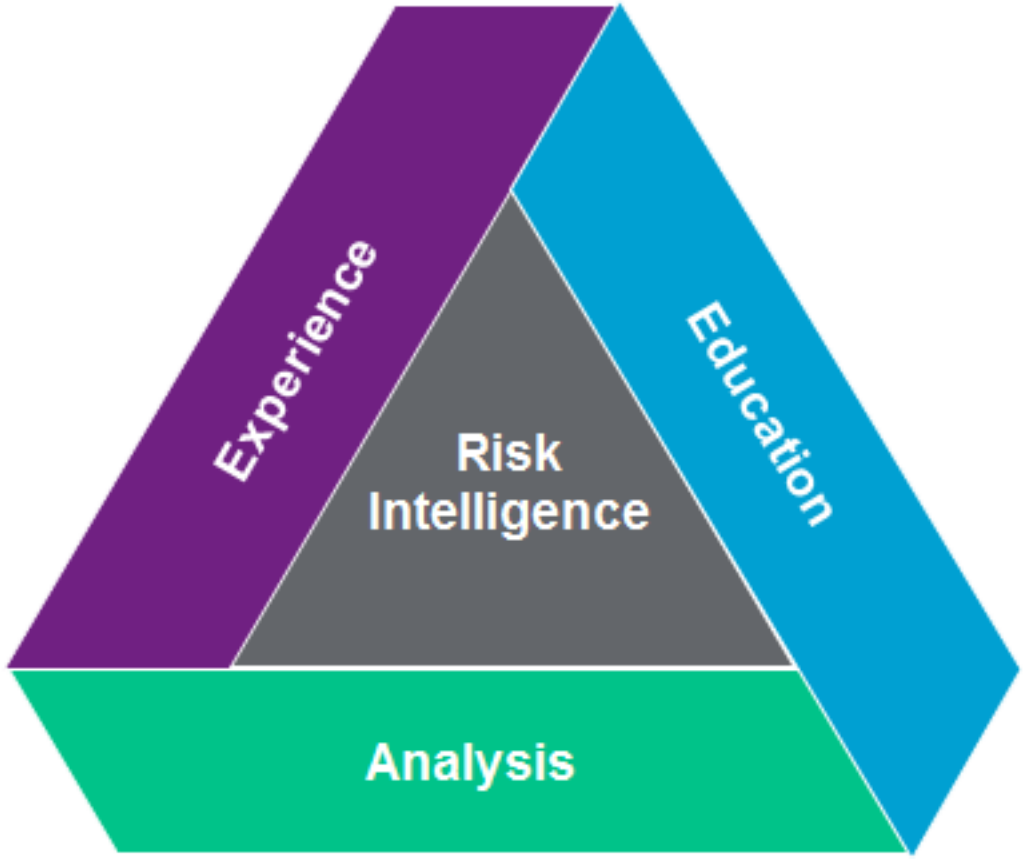
Today’s Agenda

- Risk Agility
    - Risk Intelligence
    - Action Oriented
    - Adaptability

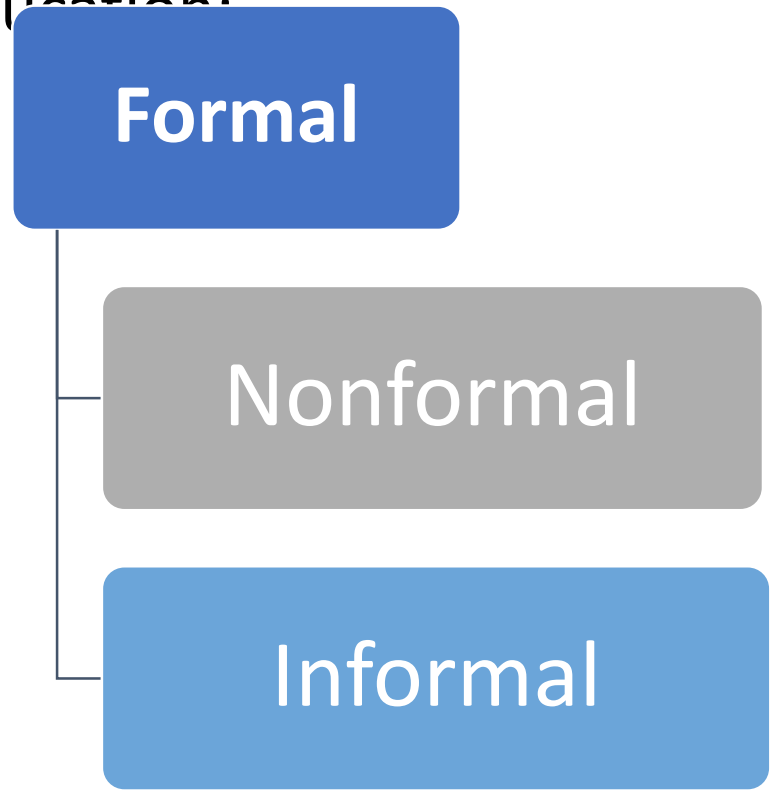
Risk Intelligence

Deconstruction of Risk Intelligence



Education for ERM

Three approaches to education:



What you need from Education
To Support Risk Intelligence

- Knowhow
  - Risk Identification
  - Risk Assessment
  - Risk Mitigation
  - Managing Risk Reward

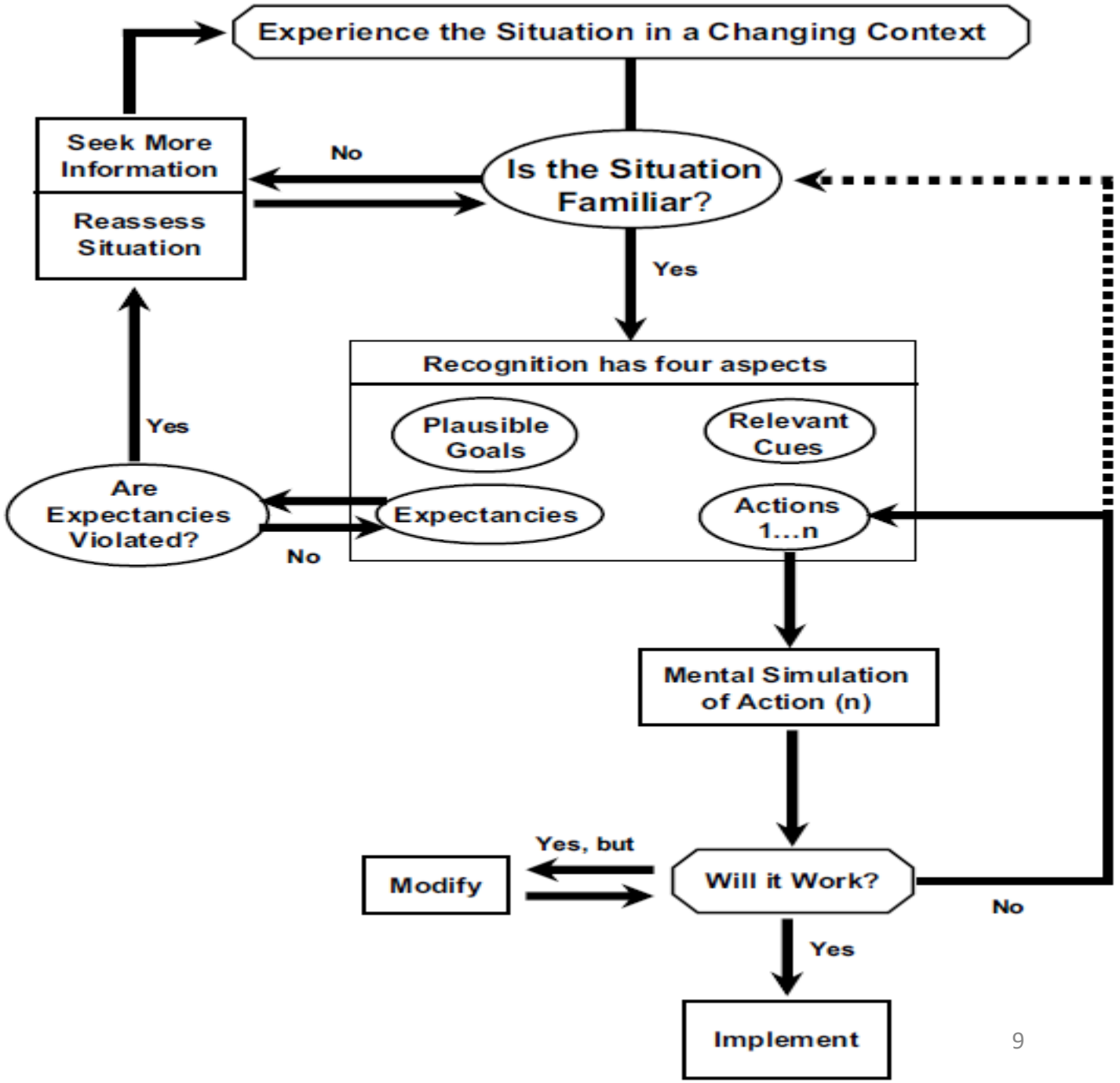
- Case Studies of Success and Failure

Education – General Weaknesses

- Main weakness – may not match up with the real world
  - Educational materials rarely match the degree of complexity experienced in the real world
- Usually closely linked with theory
  - Theory usually presents a case for why something happens the way that it does.
  - *"In theory there is no difference between theory and practice. But in practice, there is."*
    - Yogi Berra
- Theories are not necessarily updated when there is evidence that they are insufficient.

Expert Problem Solving

Uses Natural Decision Making



Klein, *Naturalistic Decision Making*, 2008

My Favorite Biases

Anchoring	Availability heuristic	Confirmation bias	Endowment effect
Framing effect	Gambler's fallacy	Hindsight bias	Illusion of control
Overconfidence effect	Status quo bias	Survivorship bias	Ostrich Effect

Three Types of Analysis

Newtonian Logic

Statistical – Big Data

Systems Thinking

Analysis – General Weakness

- GIGO – Garbage in Garbage out
  - Data is often not as reliable as it is assumed to be
- The analytic process is not as inhumanly scientific as it is presented to be
  - Analysis usually starts with a theory of the outcome of the analysis
  - Statistics are usually fit to a curve – *choice of curve is largely judgement*
  - Risk analysis focuses on modeled values *where there is little to no data*
  - Chosen curve is used to extrapolate
- Over reliance on complicated models
  - Presumption that complicated processes are better than simple processes

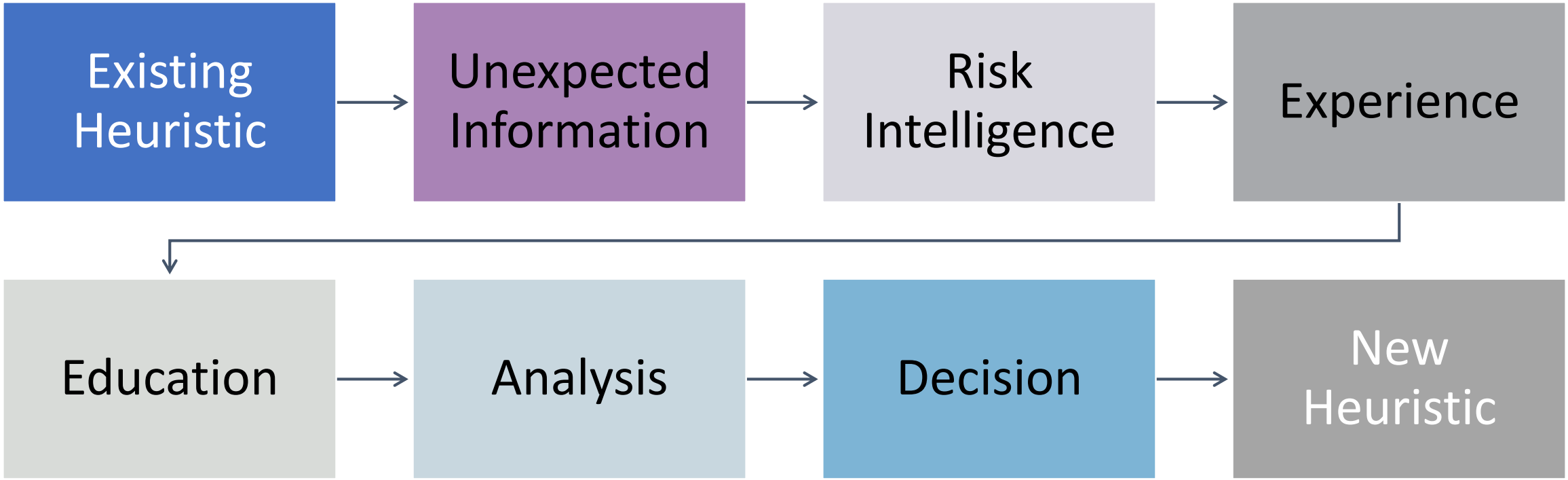
All Together

- Education can fill in gaps in Experience.
- Education of analytical processes can reduce excesses.

- Experience can fill in the gaps in education.
- Experience can tell you when your analysis conclusions do not make real world sense

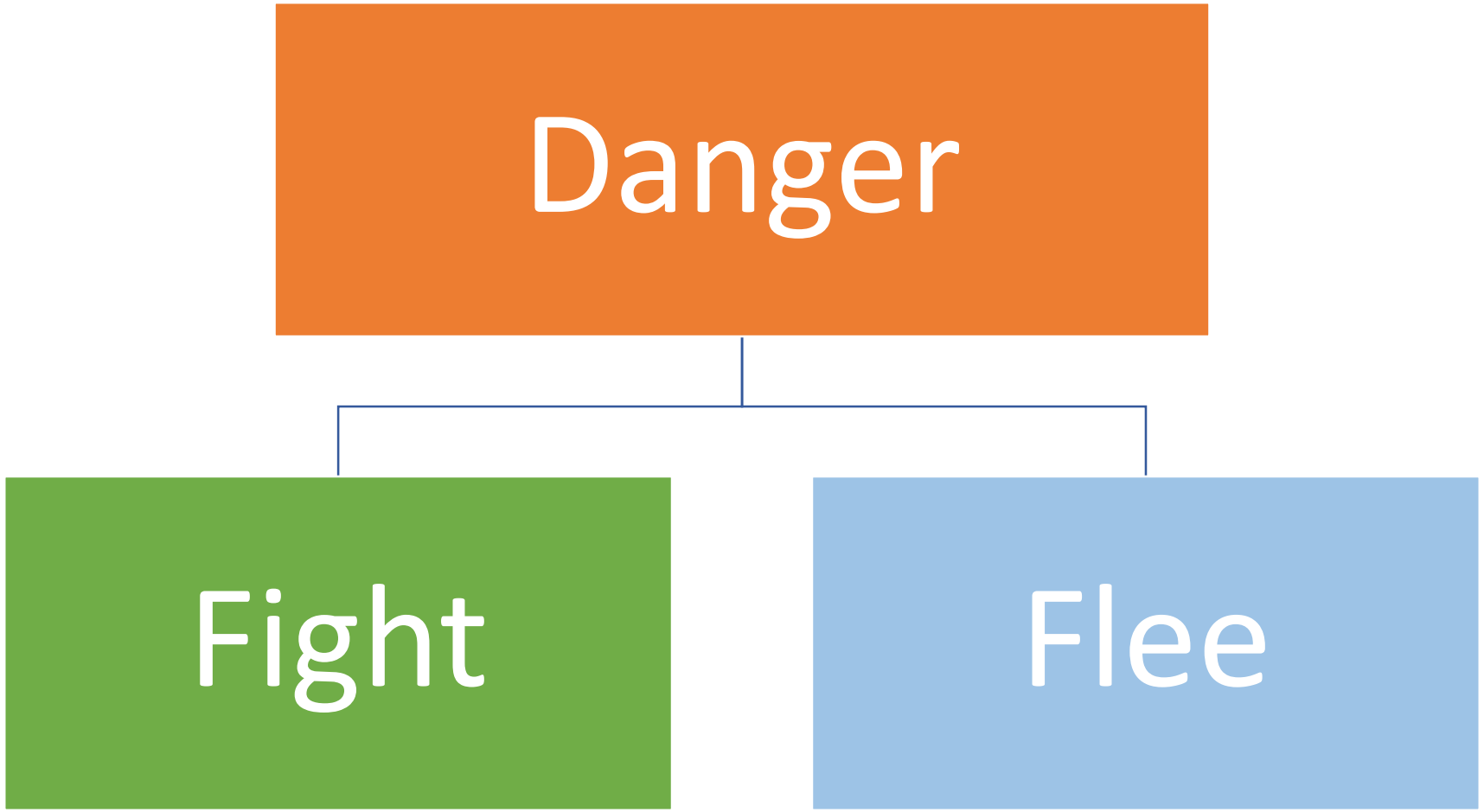
- Analysis can tie your conclusions to actual observations rather than theories.
- Analysis can show when biases have overwhelmed the actual situation.

All Together

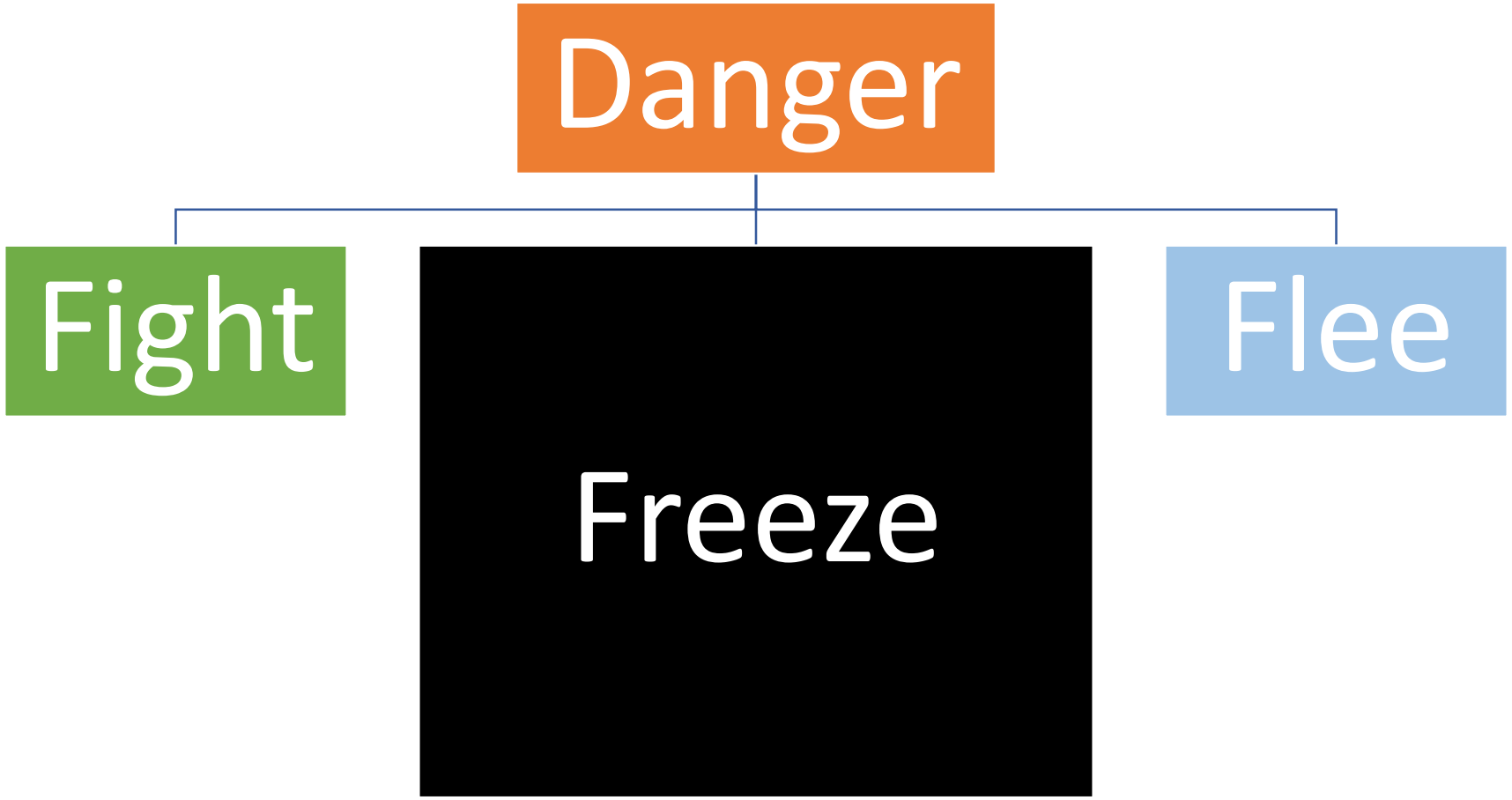


Action Orientation

Action Orientation



Action Orientation



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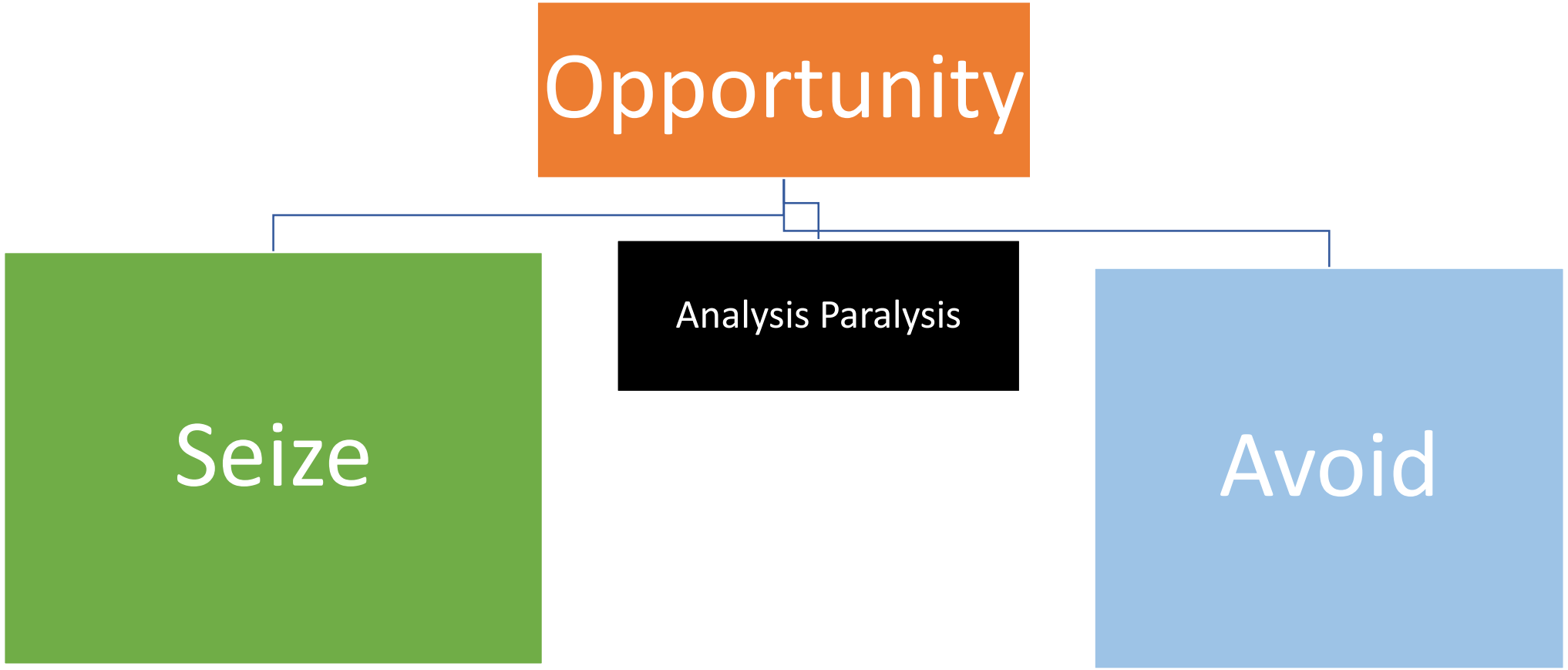
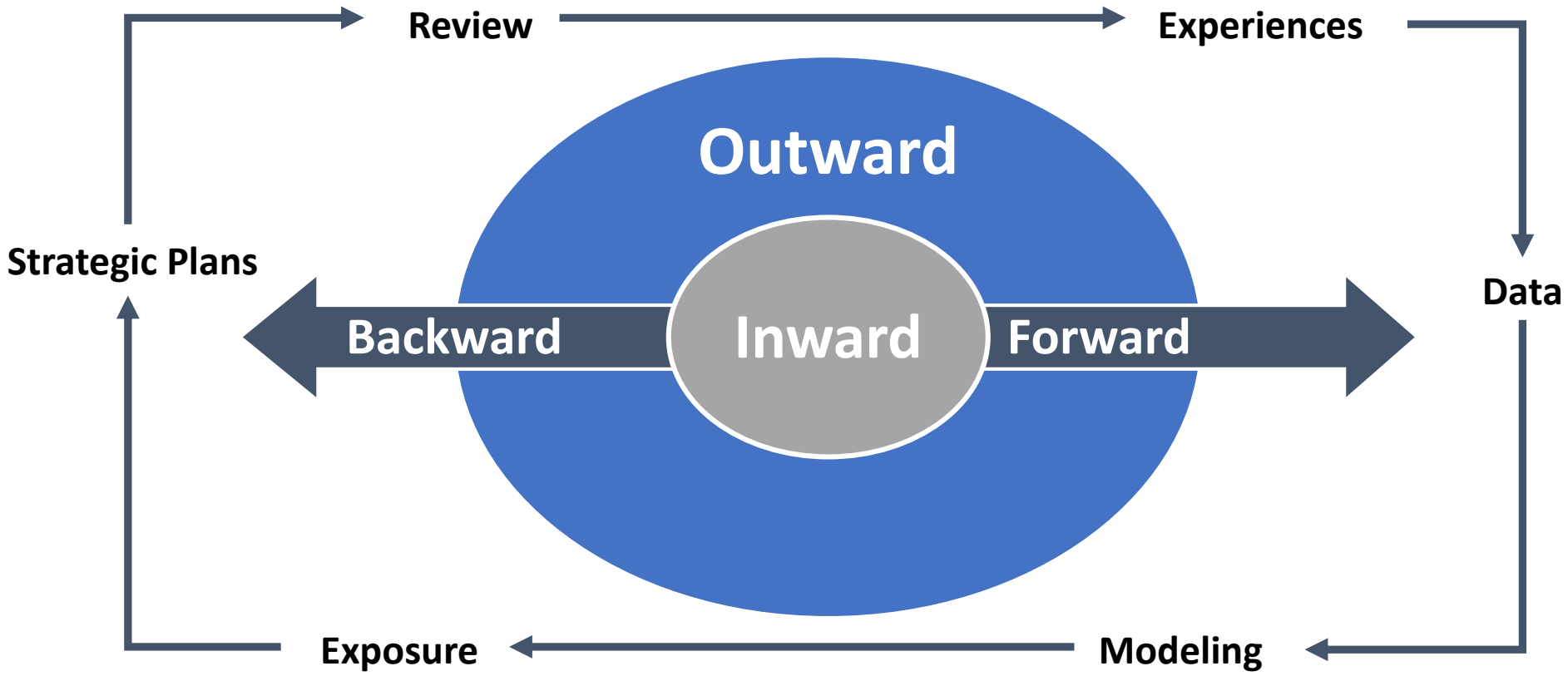


Adaptability

Emerging Risks

Continuous Learning Culture



Rational Adaptability

Risk Environment	Boom	Bust	Uncertain	Moderate
Risk Management Strategy	Aggressive Risk Taking	Limit Risk Taking and Control Losses	Keep commitments small and short term	Carefully construct portfolio of risks

Risk Intelligence and the Pressure Points of ERM

1. Incentive compensation requires appropriate alignment with desired performance
2. Nobody should have the authority to make decisions without accountability.
3. *Do Not Assume we Can Get Rid of the Risk Tomorrow for the same Price as Today*
4. *Modeling and Management Must consider the Behavioral Decisions of people.*
5. *Risk Managers Must Question the Answers*

Conclusion