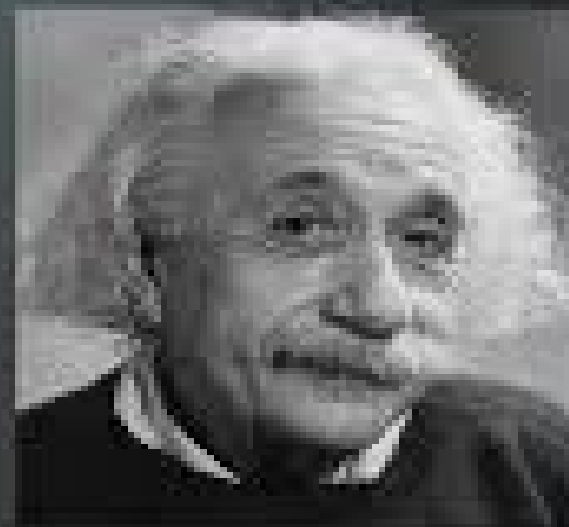


Ask the Right Questions

- What Problem (risk) Are You Trying to Solve?

Identify the Problem

"If I had only one hour to save the world I would spend fifty-five minutes defining the problem and only five minutes finding the solution."



Albert Einstein

Risk Assessment – What is Risk?

- What is Risk?
 - Risk is **Uncertainty** About Future Events
- Kinds of Risks
 - Mission
 - Loss of Property, Money, Life
 - Internal – Things we can generally control
 - Kinds of Controls
 - Preventive
 - Directive
 - External – Things we generally can't control
 - Pure or Absolute Risk
 - Only bad things can happen
 - Speculative or Relative Risk
 - Bad or Good Things Can Happen (risk vs. reward)
 - How we respond is essential!
- Characteristics
 - There is no absolute assurance
 - Controls should not cost more than their benefit
 - Assess Probability and Significance AND Cost vs. Value
 - Known vs. Unknown
 - Cause and Effect



The Problem: Misplaced Focus

- Too much emphasis on the wrong controls without assessing relative risk/cost relationship (opportunity cost is a risk)
- Too little focus on the control environment
- Too little focus on data analysis/synthesis
- Too much emphasis on the wrong objectives
 - Time, policies vs. productivity/performance
 - Paperwork/process vs. underlying cause
 - Past vs. future (looking out the rear-view mirror) instead of the windshield)

Flaws In Risk Assessment

Green Book and A-123

- Look Carefully at Risk Assessment
 - Internal Risk Assessment Is Mostly:
 - Transactional
 - Operational/Processes
 - Retrospective
 - Efficiency and Economy Oriented
 - Cost of Control (resources) Vs. Losses
 - External Risks Are About Mission Effectiveness
 - Influenced by Factors Outside of Organizational Control
 - In a Changing World – Must be Prospective
 - Leverages Greater Losses or Rewards (opportunity)
 - Can't Be Controlled but Reaction can Be Managed

Internal Risk Assessment Vs. External Risk Assessment

- Internal Risk Assessment Follows a Structured Process – Deals mostly with Known Risks and a Retrospective Approach (we know what we are trying to control – and how to do it – *check lists*)
- External Risk Assessment Requires Abstract and Critical Thinking – Deals Mostly with Unknown Risk – What We Don't Know – Prospective Approach (we can't control it – so we either become victim, or anticipate and change to adapt)

NEWTON'S LAWS OF MOTION

Affect and Effect of External Force

“Every object persists in its state of rest, or of uniform motion in a straight line, unless it is compelled to change that state by forces impressed on it.”

“Force is equal to the change in momentum (mv) per change in time. For constant mass, force equals mass times acceleration.” $F = m a$ “For every action, there is an equal and opposite re-action.”

All organizations are subject to **external forces** characterized as risks of loss/gains. (opportunities are risks not taken)



The Forces at Work: Response is Critical Transformation from the “Burning Platform”

- **The “Status Quo” is Not an Option:**

“We face large and growing structural deficits largely due to known demographic trends, infrastructure and rising health” care costs. *(David Walker, former Comptroller General)*

- **Objective:** To create a more positive future by maximizing value and mitigating risk within current and expected resource levels.

- Discovery of root causes, external forces of change and implications
- Identify new knowledge, critical changes as risks and opportunities – breaking away from established “dogma” – of what is known and expected
- The future is not a linear extension of the past!

- **Somebody has to do something!! – YOU!**

Failure in the Planning and Implementing World

● Foresight Failure

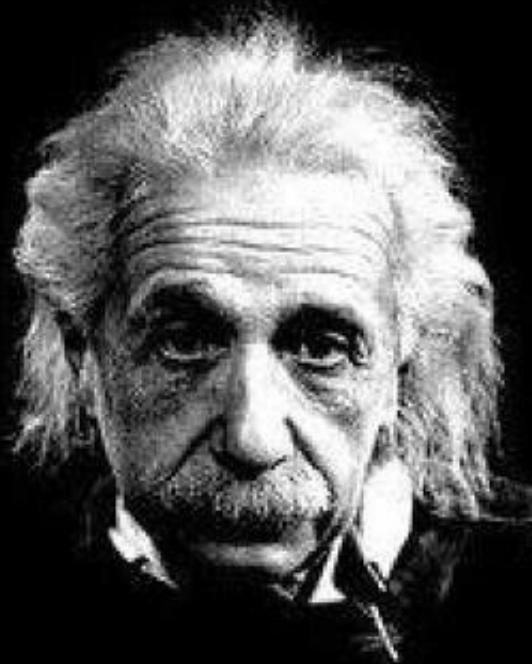
- We fail to anticipate a problem/risk/opportunity
- When a problem arrives, we fail to perceive it
(our reference points are only what we already know)

● Management Failure

- After we perceive the problem/risks, we may fail to address it - *change is very difficult*
- We may address it, but use the wrong, or outdated techniques, and fail to solve it

(David Walker, former Comptroller General)

"WE CANNOT
SOLVE OUR
PROBLEMS
WITH THE SAME
THINKING WE
USED WHEN WE
CREATED THEM"



Wayne Gretzky: Philosophy on Hockey

Applies to Risk Assessment in Organizations

*"A good hockey player plays where the puck is.
A great hockey player plays where the puck is going to be."*

*Thomas Friedman from
The World is Flat "While I
was Sleeping"*



How this Works In Real Life

Only about 14% of the companies that were part of the original Fortune 500, are even still in business today.

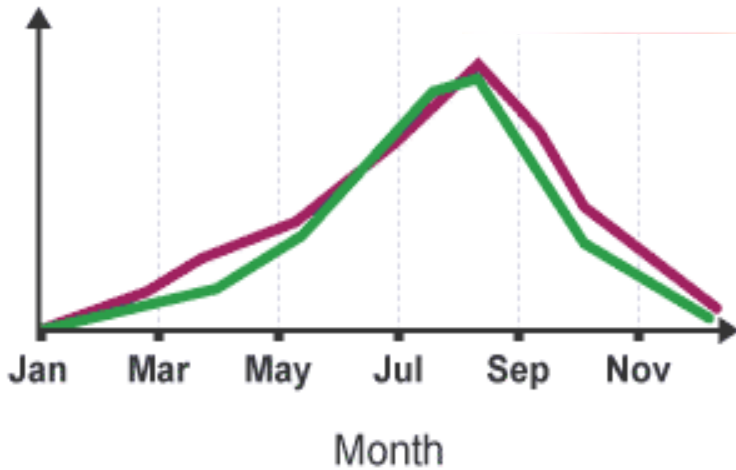
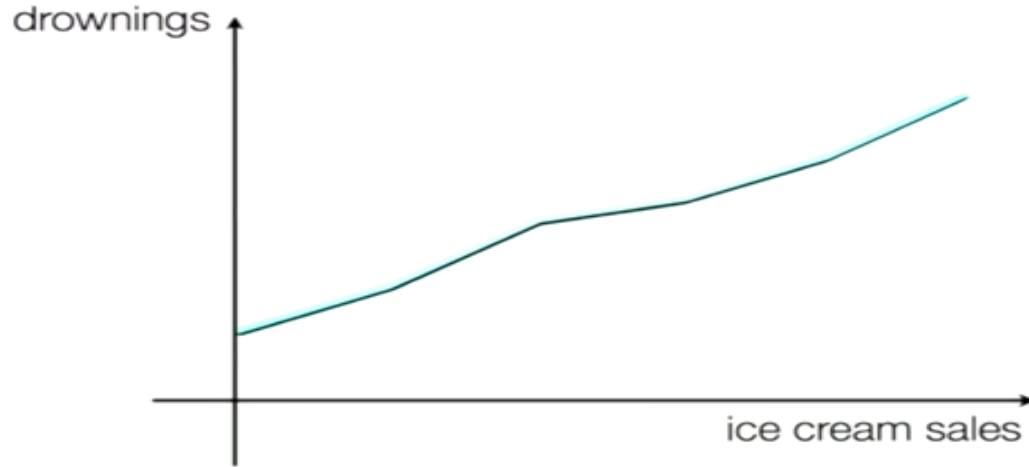
Why?

Because they failed to adequately control their reaction and the subsequent response to the external risk forces.

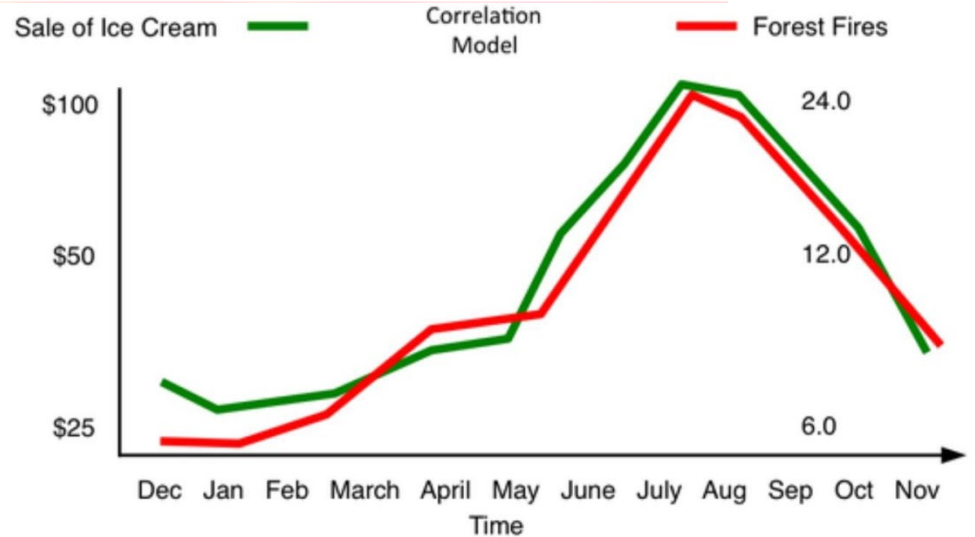
Think of External Things – If we only had foresight:

- Titanic
- 9/11
- Internet
- COVID-19
- What is Next??

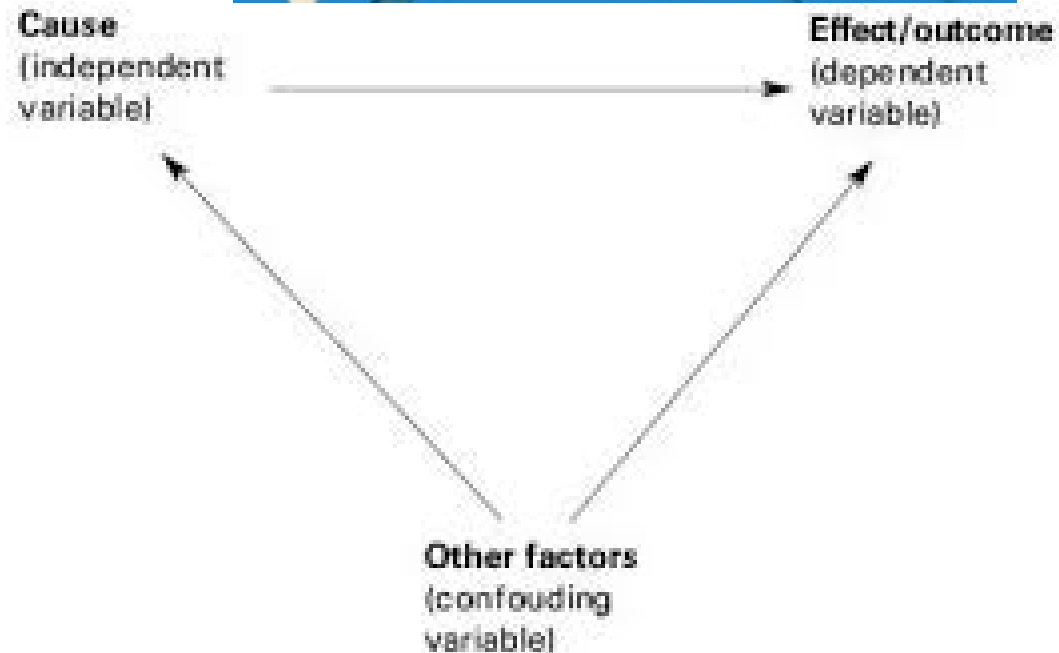
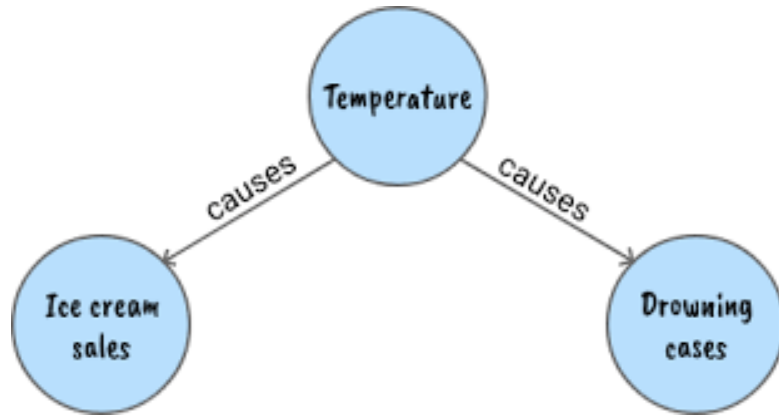
Does Ice Cream Cause Drownings, Shark Attacks and Forest Fires??



Ice cream sales
 Shark attacks



Flaws in Critical Thinking & Data Analysis Can Infer the Wrong Risks, Causes & Impacts



Cause and Effect

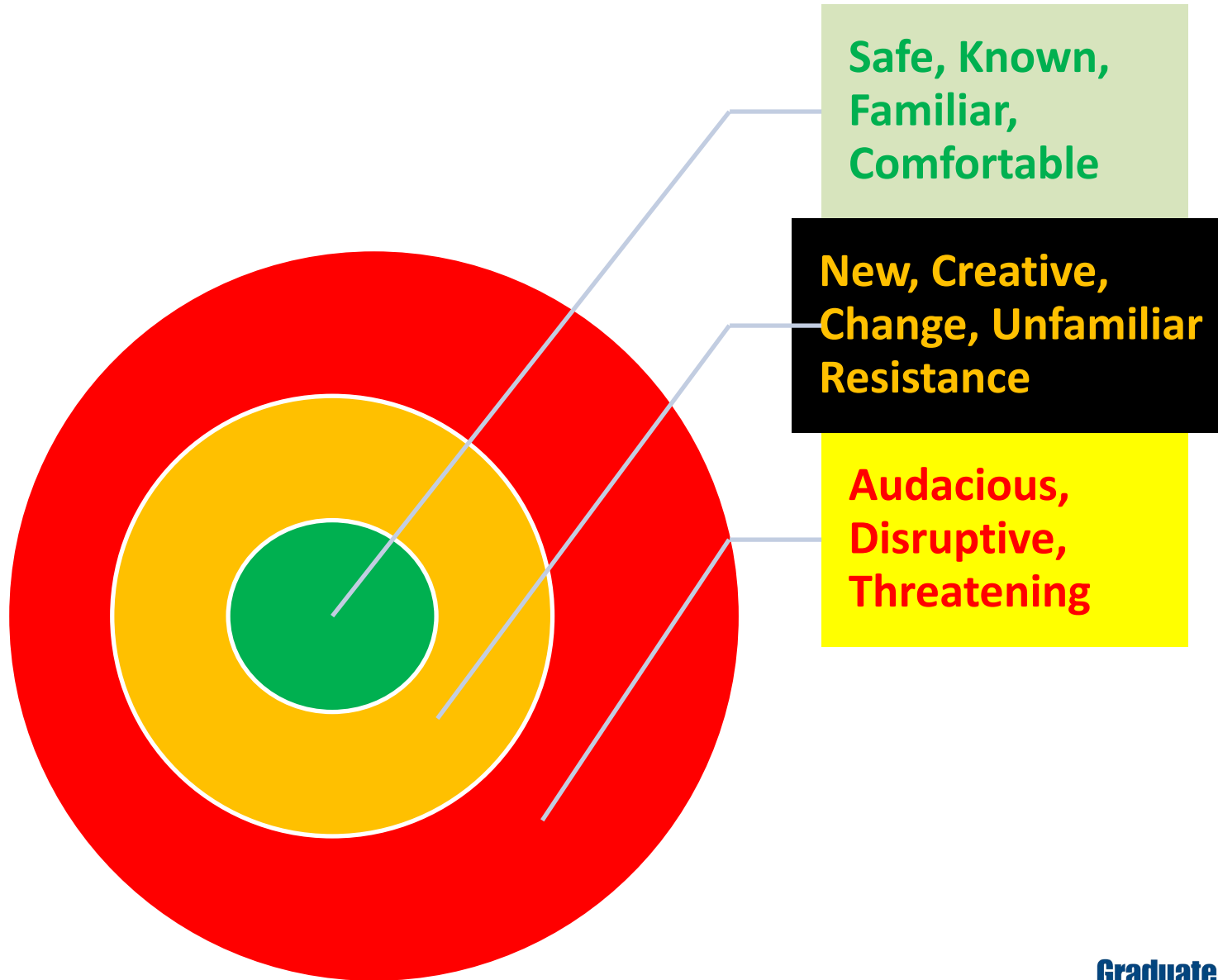
Correlation Vs. Causality

- Easy to assume correlation of things that look like they move perfectly together - but are invalid.
- Everything is correlated to the rising of the sun
 - Does the sun CAUSE everything to happen?
 - Does any variable CAUSE the sun to rise?
- Finding the True Cause – and the resulting Impacts is hard to prove.
- Risk is about uncertainty and the unknown
- Failure to use critical thinking or flawed thinking blinds to untrue causes and effects (external risks)

Thinking Outside the Box (Comfort Zone)

- No Advances in Civilization Have Been Made Without Thinking/Acting Out of the Comfort Zone.
- The Greatest Threats/Risks/Gains Occur Out of the Comfort Zone.
- Internal Risk Assessment Alone Is a Retreat to the Comfort Zone = Unwillingness to Discover the Unexplored (risk and reward).
- Government Agencies Mission and Action Must Adapt to Doing the Right Things. Not Just Doing Things Right – or They Become Irrelevant! (assess/respond to uncertainty)
- Do Our Risk Assessments & Recommendations Only Look Out the Rear-view Mirror (status quo), Instead of Looking Out the Windshield?

Internal Risk Assessment Keeps Us Focused on the Known and Expected at the Expense of the Unfamiliar/Disruptive



Tools & Techniques to Inspire Critical Rigorous Thinking

- Brain Storming/Piggy backing
- Idea Quota
- Scenarios
- Benchmarking
- Decision Trees
- Escaping Entrenchment (break the rules)
- Visualization, mapping – Possibilities, use pictures
- What If, Why and Why not Questions
- Synthetics or GAP (gain another perspective - joining unrelated concepts - draw from another discipline)
- SWOT Analysis
- PESLTE Analysis

PESTLE Analysis

What you can't control – but must anticipate to adapt to

External Risk Assessment (consider both risks and opportunities in a changing world)

1. What external changes (threats/opportunities) have (may) affect/effect this program/mission?
2. How will these changes effect the organization?
 - Political/Legal
 - Economic
 - Environmental/Natural Resources
 - Science/Technology
 - Social/Cultural
 - Demographic



PESTLE Analysis –

examples of factors to consider – and their potential impacts

Economic	Political/Legal	Science/Technology
<ul style="list-style-type: none"> • Interest Rates • Tax Rates • Employment Rate • Labor Rates • Inflation • Growth Patterns • Exchange Rates • Financial Markets • Gov't Grants/Contracts 	<ul style="list-style-type: none"> • Fiscal Policy • Trade Tariffs • Change in Gov't/Laws • Local Gov't Policy • Health/Safety • Labor/Commerce Laws • Law Enforcement • Global Threats/Wars • Security/Cyber 	<ul style="list-style-type: none"> • Automation • Research and Development • Technology Transfer • Communications • Engineering Techniques/Technology • Transportation/Infrastructure • Medical Treatment/Pharmaceuticals • Artificial Intelligence • Robotics
Demographic	Social/Cultural	Environmental/Natural Resources
<ul style="list-style-type: none"> • Education • Age Distribution • Location Patterns • Immigration • Income Distribution • Public Health • Mortality/Birth Rates • Family Size • Retirement Rate/Age 	<ul style="list-style-type: none"> • Ethnic Homogenization • Public Safety • Access to Health Care • Cultural/Ethical Norms • Generational Differences/Preferences • Employment Expectations • Mobility/Gentrification • Saving/Buying Patterns 	<ul style="list-style-type: none"> • Resource Management • Energy Availability • Air/Water/Air Quality • Weather Patterns • Climate Change • Availability/Demand for Water • Disaster Quotient • Waste/Carbon Management • Water and Land Use

Scoring Internal & External Risks

Recognize Known and Unknown Risks

Also consider risk of opportunity cost

RISK RATING – Severity x Likelihood

		Severity				
		1	2	3	4	5
Likelihood	5	Tolerable 5	Moderate 10	Substantial 15	Intolerable 20	Intolerable 25
	4	Tolerable 4	Moderate 8	Substantial 12	Substantial 16	Intolerable 20
	3	Trivial 3	Tolerable 6	Moderate 9	Substantial 12	Substantial 15
	2	Trivial 2	Tolerable 4	Tolerable 6	Moderate 8	Moderate 10
	1	Trivial 1	Trivial 2	Trivial 3	Tolerable 4	Tolerable 5

SWOT Multi Dimensional Thinking Applies to Internal and External

- **Strengths** and **Weaknesses** – Retrospective/Internal
- **Opportunities** and **Threats** – Prospective/External
- All stakeholders should participate:
 - External
 - Internal
 - Management
 - Staff

The key is - gaining alternative points of view

SWOT Analysis – Putting Things Into Perspective: Looking Back to Take Us Forward

Strengths	Weaknesses
Opportunities	Threats

Newton's Laws + PESTLE + ERM

Integrating Newton's Laws with PESTLE, and Internal Risk Assessment provides the necessary risk assessment view of the organization **from the inside out** using existing Enterprise Risk Management, and maybe more importantly, the **external risk force factors from the outside in!**

The following diagram shows how Newton's Laws of force works with PESTLE and ERM to address risks comprehensively.

Figure 2: Illustrative Example of an ERM Model

