ERM and Business Intelligence
Lessons from World War II Codebreakers

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Agenda

1 Prequel
2 Lessons
3 Reprise
4 Sequel
Questions To Ponder

Financial Crisis

1. Did we learn our lesson?

2. In Q1 2007 a time traveler brings back state of the art models, technology, governance and compensation policies, etc. Would it have made a difference?

3. Was government intervention or non-intervention appropriate?

4. Was the crisis severe enough?
Upon this battle depends the survival ... If we can stand ... all ... may move forward into broad, sunlit uplands. But if we fail, then the whole world, ... will sink into the abyss ... Let us therefore brace ourselves to our duties, and so bear ourselves that, if ... {we} last ... men will say, "This was their finest hour."

Churchill
the right ERM fit for a company can be found by involving the company’s employees

Cardinal and Li. “ERM and Business Intelligence: Lessons from World War II Codebreakers,” *Contingencies*, Mar/Apr 2011
a framework for developing and using intelligence that is a model for today’s corporate risk managers
Insurer Challenges/Forces Driving ERM

Ratings
NAIC SMI
RBC
SEC
Solvency II

Financial crisis
Volatile markets
Capital
Liquidity

Product & model complexity
Earnings volatility
Complex risks

Policyholders
Distributors
TRUST

Revenue
ERM
Risk
Profit
ERM is process and people centric
- Utilize disciplines from strategic organizational behavior
- High involvement management
ERM can be a sustainable competitive advantage
- Valuable, rare, and difficult to imitate
Convergence
- ERM - Performance management - Business management
Strategic Organizational Behavior

- Transparency
  - (which is not disclosure)
- Communication
- Conflict
- Decision making pitfalls/biases
- Patterns of work

Centralized Networks
- Command-and-control hierarchy
- Simple tasks
- Efficiency, speed and accuracy

Decentralized Networks
- Complex tasks
- Solving complex problems


OB Chap 1, 9-12
Communication Barriers

Organizational Barriers
- Information overload
- Noise, time pressure
- Network breakdowns
- Information distortion
- Cross-cultural barriers

Individual Barriers
- Differing perceptions, semantic differences
- Status differences, self-interest considerations
- Poor listening skills
Decision Making Pitfalls

**Individuals**
- Cognitive bias
- Confirmation bias
- Anchoring bias
- Ease of recall bias
- Sunk-cost bias

**Groups**
- Groupthink
- Common information-bias
- Diversity-based infighting
- Risky shift (group decisions tend to shift towards increased risk more often than toward increased cautiousness)

*OB Chap 10*
Lessons from WWII Codebreakers

All Military and Intelligence examples are derived from

Parallels

Codes ~ ERM models
Cryptanalysts ~ Actuaries, financial analysts
Staff officers ~ Department heads/Managers
Generals ~ Senior management
Lesson 1: Intelligence acquisition is only the first stage. All five stages are critical for ERM.
Codes

- Code & key – trillions of combinations
  - Key - similar to modern PC passwords
  - Keys changed frequently as did codes
  - Deciphering = knowing both the code and key
  - Breaking a code - reducing possibilities to 1,000s

- Codes
  - German Enigma
  - Japanese Purple
  - British Naval Code and Naval Cypher
  - American Black and Navajo
Codebreakers

- Codebreaking efforts
- British Intelligence - Bletchley Park
  - Staff divided into five sections
    1. Traffic analysis
    2. Directing intercept stations to the most promising sources
    3. Application of decryption tools
    4. Coordination of the first two tasks and oversight of the 3\textsuperscript{rd}
    5. Dealing with any messages that yielded to decryption
- American Intelligence
  - Secret Intelligence Service
  - OP-20-G

**Lesson 2:** Intel acquisition entails creativity and highly expert and coordinated resources.
Lesson 3: Transparency and collaboration are central to all five stages of intelligence.
Commanders and intelligence staff – silos
“displayed supreme contempt for [our] work. He never came into the room …”
Minimal communication and nonexistent collaboration
Commander withheld intent and objectives
Precise narrow answers

Lesson 4: Intelligence is only as good as the interpretation put on it, often best supplied by the intelligence staff who acquires it.
Battle of Crete: May 20, 1941

- British retreat from Greece April 26
- Freyberg arrives April 29; assigned as Crete Commander
- German operation *Merkur* decrypts
  - Timing of attack
  - Objectives
  - Sequence
  - Strength
  - Composition of attacking force
  - Almost complete foreknowledge
- Competent commander, adequate force, experienced soldiers, more numbers (2:1), better weaponry, element of surprise negated

What could go wrong?
Battle of Crete Lessons

- Intel source kept secret (far from decision-maker)
- Commander unable to consult on operational decisions
- Filtered interpretations
  - Omitted which units would land where, etc.
- Commander confused/misled regarding various enemy Divisions and references to shipping (seaborne landing in addition to airborne?)
- Limited wireless
- Interpreters abilities and achievements lagged the cryptanalysts

Lesson 5: Intelligence is only as good as the use made of it.
Fixated beliefs

Von Muller
- Made facts fit existing beliefs
- Did not accept the intelligence delivered

Lindemann
- Rejected alternative viewpoints
- Rejected intel opposed to prior belief
- Used influential position to deride and discredit contrarians

Churchill
- “I would rather be right than consistent”

Lesson 6: ERM and business intel become stronger through alternative perspectives and dialogue.
It’s May 18, what should Admiral Nimitz, Commander of the Pacific Fleet, do?
Battle of Midway

Americans

- Rochefort proves AF is Midway
  - Instructed Midway to fake a water shortage message
- May 25 intel establishes strength, composition, place, time
  - 175 miles from Midway bearing 325° at 7:00 am June 4
- Nimitz commits all
Japanese

- Objective: draw American carriers into battle (trap) by attacking Midway (element of surprise)
- Nagumo’s Midway fleet under orders of radio silence
- Intel sights American air patrol far west of Midway
- Intel intercepts messages from sub patrol in path of Midway fleet which does not have radar capabilities.

What should Admiral Yamamoto do?
Japanese

- 4:30 am: first attack launched; second attack needed
- 7:15: refueling planes and switching from anti-ship strike to prepare for second attack
- 7:28: air patrol sights 10 enemy surface ships in proximity
- 7:45: Admiral Nagumo makes a decision

What should he do?
Japanese

- 4:30 am: first attack launched; second attack needed
- 7:15: refueling planes and switching from anti-ship strike to prepare for second attack
- 7:28: air patrol sights 10 enemy surface ships in proximity
- 7:45: Nagumo prepares for carrier defense and attack on Midway; requests they “ascertain ship type.”
- 8:09: “five cruisers and five destroyers”
- 8:20: “accompanied by a carrier”
- 8:55: “ten enemy torpedo planes heading towards you”
- 9:30-10:20: 5 American squadrons attack but fail
Battle of Midway Lessons

Americans
- Divisional divisive conflict
- Resolve. Accept intelligence
- Foreknowledge
- Incorporate new observations; decisions in the field

Japanese
- Withheld information
- No dialogue/consultation
- Not flexible, adaptable
- Indecisive, forgot the objective

Lesson 7: ERM must incorporate new intel in decision-making within a new context and requires decentralized decision-making authority.
Battle of the Atlantic Lessons

Germans
- Confined direction to tiny group; Self-imposed exclusion
- Clung to the “single idea”

British
- Included all who needed to know
- Were a modern day learning organization
- Shared best practices
- Championed bottom up ideas
- Key was Junior Officer idea originally rejected by Admiralty
- Collaborated, varied techniques, invoked new technologies

Lesson 8: Culture has a significant impact on the five stages, especially implementation, and, hence, on ERM efficacy.
Culture Overview 1 of 2

British
- Mathematical ability, amateur, informal, high % were women
- Impressive degree of unification
  - Extraordinary singleness of purpose
  - War Cabinet to the Admiralty and Air Ministry to Bletchley Park and the Derby House
- Bletchley is popular in fiction and film

Americans
- Language skill, serviceman, bureaucratic, male-dominated
- Divided into naval/military branches
- Intelligence branches – no respect; lack popular acclaim
Germans
- Polar opposites of British
  - Lacked efficiency, collaboration, learning, sharing

Japanese
- Army and Navy operated as separate entities
- Army, which dominated government, only reluctantly accepted the Navy's right to speak on strategy

Operational intelligence
- Military hierarchy - Intel officers subordinate to operations
- Modern espionage - professionals, bureaucracies, guard and withhold knowledge

Lesson 9: ERM should be based on a learning, high-involvement management culture.
Intelligence + Strength

- Convention: Knowledge is Power
- Intelligence is not necessarily the means to victory; ultimately, it is *force* that counts.
- Foreknowledge is no protection against disaster
  - Western democracies allowed Hitler to undermine their European security system
  - The Japanese persuaded themselves against all evidence and their leading admiral’s warnings, that they could attack America and survive

**Lesson 10:** ERM and business intelligence need to be delivered, accepted, interpreted, and implemented - and implemented with force.
Reprise
Modern Lessons 1 of 2

- AIG ¹
  - “Debate and discussion that was common under the previous CEO ceased”

- Merrill Lynch ²
  - CEO: “We’ve got the right people in place as well as good risk management and controls”
  - Reality: “There was no dissent, so information never really traveled”

- HBOS ³
  - “No-one wanted or felt able to speak up for fear of stepping out of line”

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¹ Lewis, M. “The Man Who Crashed the World,” Vanity Fair, June 2009


³ Moore, P. Memorandum from Paul Moore, Ex-head of Group Regulatory Risk, HBOS Plc. Available at www.publications.parliament.uk/pa/cm200809/cmselect/cmtreasy/144/144w243.html
Modern Lessons 2 of 2

- Countrywide 4
  - CEO: "In all my years in the business, I have never seen a more toxic product."
  - CEO “worked to quash dissent in the ranks … Mr. Winston was marginalized and later dismissed.”

- Katrina. Madoff. Toyota. BP. …

- Goldman Sachs 5
  - “The firm’s risk management processes did not, and could not, provide absolute clarity; they underscored deep uncertainty … That uncertainty dictated our decision to attempt to reduce the firm’s overall risk.”


Lessons revisited

Allies’ response to perils of WWII

- Invested heavily in technologies, R&D
- Recruitment of people (not just military) and training
- Utilized resources and ingenuity from manufacturing, logistics, transportation and new technologies
- Unprecedented coordination of silos
- Changed work culture, fostered transparency
- Created collaborative high performance high involvement cross-functional teams
- Exemplified adaptation, flexibility, responsiveness and being a learning organization
- All these lessons we can learn from and apply today
# Contrasting Cultures 1 of 2

<table>
<thead>
<tr>
<th>Control RM</th>
<th>High Involvement ERM</th>
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<tr>
<td>Silos</td>
<td>Enterprise - integration</td>
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<td>Centralized communication networks</td>
<td>Decentralized communication networks</td>
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<tr>
<td>Single points of connectivity</td>
<td>Multiple connectivity points</td>
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<tr>
<td>Power resides in positions</td>
<td>Power resides in interactions</td>
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<td>Need to know; secretive</td>
<td>Transparent</td>
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<td>Club member only</td>
<td>Wide circles - engage/delegate</td>
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<td>Separation/Partition</td>
<td>Collaboration</td>
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<tr>
<td>Exclusive</td>
<td>Inclusive</td>
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<tr>
<td>Withhold intel downstream</td>
<td>Take in confidence</td>
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## Contrasting Cultures 2 of 2

<table>
<thead>
<tr>
<th>Control RM</th>
<th>High Involvement ERM</th>
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<tbody>
<tr>
<td>Filter/censor up</td>
<td>Inform, Alert</td>
</tr>
<tr>
<td>Top dictates solutions; bottom carries out orders</td>
<td>All levels engaged; top receptive to bottom up ideas</td>
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<tr>
<td>Reports far-removed from source</td>
<td>Reports from/close to the source</td>
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<td>Non- &amp; Miscommunication</td>
<td>Dialogue</td>
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<td>Single perspective/measures</td>
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<td>Delays</td>
<td>Speed</td>
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<td>Fixated beliefs</td>
<td>Receives &amp; explores alternatives</td>
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<tr>
<td>Limits sharing</td>
<td>Promotes sharing best practices</td>
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<tr>
<td>Cost minimization</td>
<td>Investment maximization</td>
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The D’s of ERM

- Deliver
- Decide
- Design
- Deploy
- Discuss
- Disagree
- Dialogue
- Debate
- Dissent
- Drivers
- Distill
- Discern
- Decipher
- Debrief
- Data
- Detect
- Discover
- Dynamic
- Discipline
- Disseminate
- Demonstrate

- Learning
- Involvement
- People
- Responsibility
- Authority

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Victory at all costs ...

victory however long and hard the road may be; for without victory, there is no survival

Churchill
Sequel
Risk Culture Starts With Leadership
Take our survey at

http://www.polysystems.com/currentpolls.php

The goal is to get you to think and ask questions about what constitutes a strong risk culture and makes a great risk management leader.

It has 4 lists:
- Choose 5 Traits
- Choose 3 Military leaders
- Choose 3 Statesmen
- Choose 3 Business leaders
Questions

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