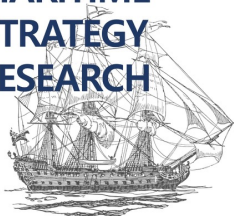




Resilience driven by
ingenious thinking

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INTRODUCTION

The power of ingenious thinking

Ingenious thinking can be defined as the capacity to **produce novel ideas and concepts, and the ability to apply unconventional solutions to solve problems**. Ingenious thinking requires the assessment of situations from different perspectives and the evaluation of all possible options to address challenges.

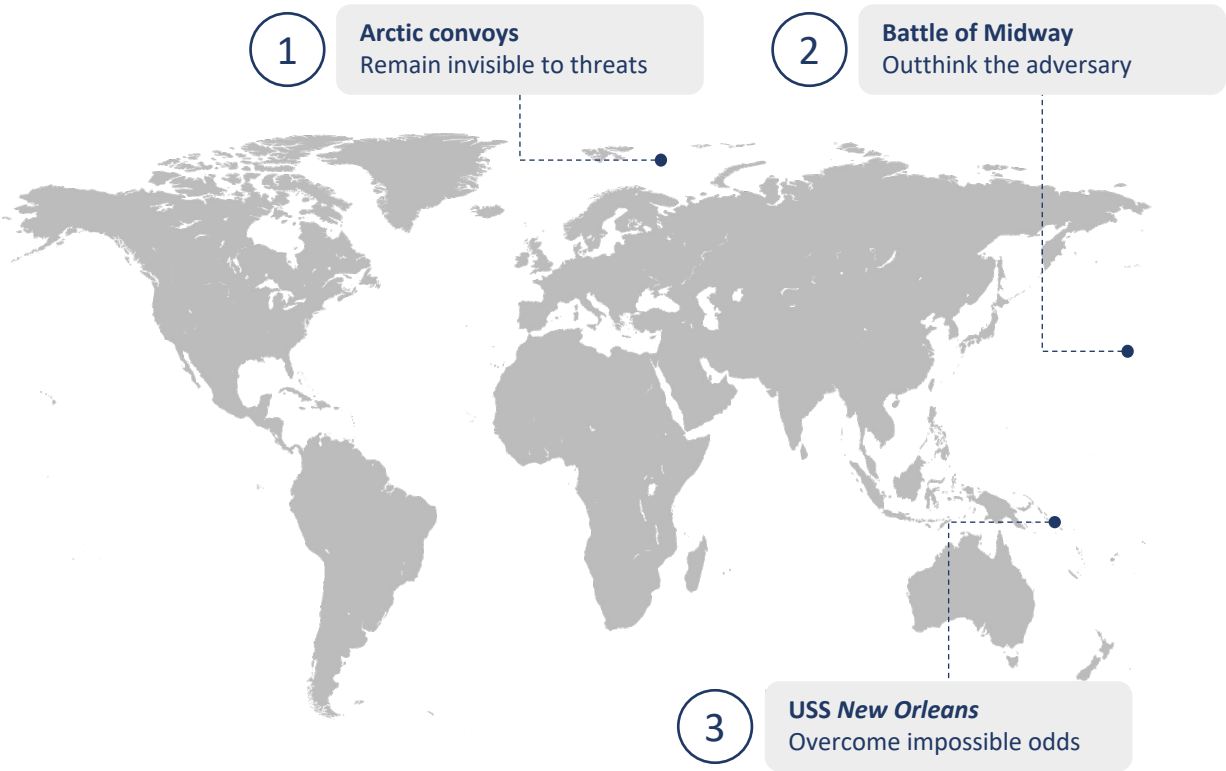
By **applying an astute perspective on difficult problems**, the ingenious thinker can generate original and daring ideas to overcome the greatest obstacles, even those that look insurmountable.

Does ingenious thinking contributes to resilience?

An organisation has to constantly overcome challenges and threats in order to achieve its objectives. This requires reaching a high level of resilience. In this context, **how can ingenious thinking provide innovative solutions to mitigate risks, reduce exposures and ultimately drive resilience?**

Three World War II naval case studies from 1942 demonstrate that groundbreaking ideas can make a substantial difference when it comes to overcoming even the most difficult circumstances, ultimately driving resilience in an organisation.

Three World War II naval case studies from 1942



① ARCTIC CONVOYS REMAIN INVISIBLE TO THREATS

The resilience challenge

The Arctic convoys were a series of resupply missions organized by the Allies to provide war material to the Soviet Union during World War II. These convoys incurred enormous risks as they were exposed to German attacks along the route.

On 27 of June 1942, 35 cargos from convoy PQ17 left Iceland with their escorts and headed to northern Russia. During the voyage, the British Admiralty scattered the convoy fearing a German surface fleet attack, leaving the merchant ships unprotected.

The ingenious solution

One of the small escort ships, the 500 tons trawler HMT *Ayrshire* under command of lieutenant Leo Gradwell from the British Royal Navy, gathered three cargo ships and brought them north. The flotilla reached the Arctic ice and sailed into the ice-floes.

To hide from sight of enemy submarines and aircrafts, Gradwell ordered to cover the decks with white linen and paint the side of the vessels facing the sea with white paint found in one of the cargo ships. After four hours of urgent work, the exposed parts of the ships were white, camouflaged in the Arctic ice.

The small group remained undetected in this position for three days. When German attacks subsided, the group left their anchorage and sailed East, reaching the Russian port of Archangel on 25 of July. Out of the 35 cargos that composed the PQ17 convoy, only 11 arrived to their destination, including the three vessels that were ingeniously hidden by Gradwell.

Lieutenant Gradwell came up with a creative idea to save the ships under his responsibility. He correctly assessed the risks and focused on the essential task of remaining undetected until the danger has passed. He wisely exploited the limited resources available and the prompt execution of his plan ensured the resilience of his flotilla.

The ingenious thinker



Alchetron. Leo Gradwell.

HMT *Ayrshire*



IWM (FL 1284). HMT *Ayrshire*, underway off Iceland.

② BATTLE OF MIDWAY

OUTTHINK THE ADVERSARY

The resilience challenge

In March 1942, intercepted Japanese messages indicated that the Japanese Imperial Navy was planning to launch an attack on American positions in the Pacific. These messages made reference to an imminent attack on “AF”, but the American command ignored to which territory “AF” was referring to.

The U.S. Navy Command in Hawaii suspected that “AF” referred to the American base in Midway, but this assumption had to be confirmed in order to anticipate the upcoming attack and gain the initiative.

The ingenious solution

Commander Joseph Rochefort and his subordinate Jasper Holmes from the U.S. Navy code breaking unit in Hawaii, prepared an ingenious plan to uncover the meaning of “AF”. They ordered the base in Midway to issue an unencrypted message reporting shortages of drinking water caused by damage of the salt-water evaporator. Immediately after that, the Americans intercepted a Japanese message stating that “AF” lacked fresh water.

With confirmed intelligence, the U.S. Navy was able to anticipate the enemy’s intentions, reinforce the base at Midway and position its naval assets appropriately. The Japanese lost the surprise effect and were confronted by a well prepared American force. The Battle of Midway in June 1942 became a critical American victory in the Pacific, during which the Japanese aircraft carriers and naval aviation suffered significant losses that were not recovered for the rest of the war.

Rochefort’s simple but effective stratagem provided a strategic edge to the U.S. Navy ahead of the Battle of Midway. By outthinking the enemy, Rochefort set the conditions that allowed the Americans to approach the battle with a significant advantage. The outcome of the Battle of Midway greatly contributed to the resilience of the U.S. Navy during the rest of the war.

The ingenious thinker



NHHC (NH 64844). Joseph J. Rochefort as a lieutenant, on 15 September 1934.

The Battle of Midway



NHHC (80-G-701897). Diorama by Norman Bel Geddes. Attack on Japanese cruisers *Mogami* and *Mikuma* 6 of June 1942.

③ USS *NEW ORLEANS* OVERCOME IMPOSSIBLE ODDS

The resilience challenge

On the night of 30 of November 1942, the 10,000 tons heavy cruiser USS *New Orleans* was struck by a Japanese torpedo at the Battle of Tassafaronga, during the Guadalcanal campaign.

The explosions that followed caused the fracture of the bow and its detachment from the rest of the ship. USS *New Orleans* lost 1/5 of her length and risked to sink due to flooding. Her sailing qualities were also seriously compromised and saving the ship seemed to be an impossible task.

The ingenious solution

In spite of this precarious situation, Captain Clifford Roper and the damage control team devised an emergency plan to save USS *New Orleans* from sinking. They slowly sailed to the nearby harbour to Tulagi in the Solomons, where the ship was camouflaged to prevent air attacks. There, the crew proceeded with urgent repairs, including the construction of an improvised bow with coconut logs.

After completing these makeshift repairs the ship engaged in a 12 days journey between Tulagi and Sydney for further repairs. To avoid water entering the ship through the improvised bow, the ship sailed between Tulagi and Sydney in reverse.

After a provisional bow was installed in Sydney, the ship sailed in reverse throughout the Pacific Ocean to reach the Navy Yard of Puget Sound in the United States, where a permanent bow was installed. This allowed the warship to return to active duty in the fleet in 1943.

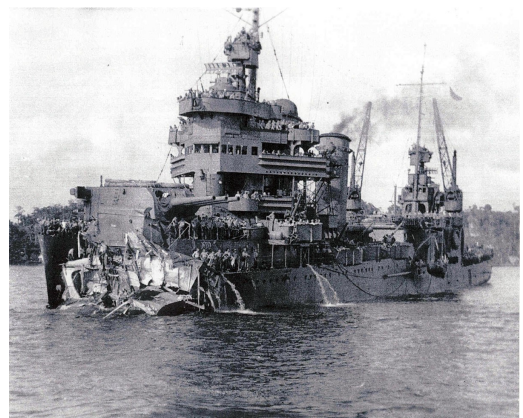
USS *New Orleans* was saved by the audacity, unwavering resolve and skilful seamanship of her crew. Unconventional solutions, such as using coconut logs to repair the warship and sailing stern-first through the Pacific Ocean to prevent flooding, allowed to overcome a situation that seemed hopeless. Ingenious thinking turned USS *New Orleans*' fate into a remarkable display of resilience.

The ingenious thinker



NHHC (80-G-216818). Captain Clifford H. Roper on onboard USS *New Orleans* in Tulagi Harbor after the Battle of Tassafaronga.

USS *New Orleans* at Tulagi



NavSource (0403229). Port bow view as she entered Tulagi harbor about 8 hours after being struck by a torpedo, 1 December 1942. U.S. Navy photo from the collection of Fred Overman family.

CONCLUSION

Ingenious thinking can be a strong driver of resilience

These three naval warfare case studies show that ingenious thinking can be a strong contributor to risk management and **can be a determinant factor in achieving resilience**, even in the most critical situations.

However, ingenious ideas are not sufficient. **Gaining resilience through ingenious thinking is an intentional process** that requires the implementation of deliberate steps. These case studies allow to identify six steps, which jointly contribute to the ultimate objective of resilience:

- ① **Sharp assessments**
Gain a comprehensive situational awareness before defining any plans. The analysis of problems from different angles can reveal unpredicted solutions.
- ② **Innovative ideas**
Have the inventiveness to devise unexpected stratagems and propose unconventional ideas to exploit all possible advantages. Ingenious ideas can be simple, but yet decisively effective.
- ③ **Unwavering resolve**
Have the courage to push bold ideas forward despite the odds. The ingenious thinker must display a great sense of initiative, determination and audacity.
- ④ **Resources optimization**
Make the most out of available means, including improvising unexpected usages of resources. Do not discard upfront the use of any materials, equipment or tools.
- ⑤ **Prompt execution**
Seize openings by taking prompt action. In critical moments, speed of reaction can be crucial to achieve a result before a window of opportunity closes down.
- ⑥ **Team effort**
Leverage the skills and collective efforts of a team is essential to maximize the potential of novel ideas. Only a team effort allows to implement ingenious ideas at scale.

“

*God grant me the courage not to give up what I think is right
even though I think it is hopeless.*

Admiral Chester W. Nimitz
U.S. Navy, Commander in Chief, Pacific Fleet during World War II

ABOUT THE AUTHOR

André Fournier is a naval historian and risk management practitioner with more than 25 years of professional experience. He is also a risk researcher and believes that naval history provides lessons of risk management that are replicable to modern-day business situations.

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