The Titanic Syndrome or Management in Times of Crisis

military-Earth thinking notebook

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Histoire & stratégie

The exercise of command, when practised in fire, touches on the extremes of human existence. The military decision-maker must therefore master the techniques of risk analysis: analysing the needs of his men, ensuring their operational preparation and their training at their workstations so that they respect established procedures in all situations. Effective skills from the point of view of the management of men, the management and identification of relevant information then take on crucial importance. These situations can be likened to the crisis situations encountered in major disasters. The study of these major tragedies is therefore full of lessons for the military leader. Lieutenant (Air) Jean-Marc BOSC gives us here a slightly updated version of an article published in 2012 in the magazine TACTICAL magazine of Editions Crépin Leblond.[1]. It analyses one of the most famous disasters of the 20th century, the sinking of the liner Titanic. Reading this text, one wonders whether all the lessons of this tragedy have been learned. Let's hope that these reflections on management can be useful to readers of the "Mili-Terre" thought book. We would like to take this opportunity to thank the editor of TACTICAL for her kind permission to share this article with our readers.

1] TACTICAL Magazine n° 5, Editions Crépin Leblond, June 2012.

L'histoire is never repeated, they say!

However, 100 years after the Titanic disaster , the sinking of the Costa Concordia is a cruel reminder that man's achievements, however powerful and efficient they may be, are little in comparison with the elements. How can we explain that, 100 years apart, two machines emblematic of the technology of their time have been reduced in a few hours to a wreck? What comparison and what lessons can be drawn from these two events? Let's plunge into the heart of the "Titanic syndrome ".

A textbook case!

An ideal subject for teaching risk control, the Titanic showed us that blind confidence in the technological performance of the famous ship led its crew to neglect the liner's environment and basic navigational precautions. This is what some authors call the "Titanic syndrome " [1]. Alas, the blindness, the feeling of invulnerability, the pride in its technological superiority, the minimisation of the difficulty of the ship, the lack of a sense of security, the lack of a sense of security, the lack of a sense of security, the lack of a sense of security, the lack of a sense of security.Alas, blindness, a sense of invulnerability, pride in technological superiority, minimization of difficulty, inability to discern important information in time, especially if it disturbs, are indeed, to a large extent, at the root of the disaster. If we look closely, the human factor, the management of people and the organisation of tasks are also, to a significant extent, at the root of the disaster. The Titanic case is just a pretext for asking one question: have we learnt all the lessons from this disaster and are we safe from such accidents? The Concordia tragedy proves, unfortunately, that we are not. The story of the sinking of the Titanic [2],recently immortalized in James Cameron's eponymous film, is well known, but the sinking of the Titanic also hides shortcomings, from which our modern organizations are not always exempt.

A cruise of "dreams"!

The RMS Titanic was designed by the Harland & Wolff shipyards in Belfast between 1909 and 1912. She had two sister ships, theOlympic and the Britannic . The launch of this programme had its origins in the commercial war that the major European shipping companies were waging to maintain or acquire leadership in passenger traffic between the old and new worlds.

The Titanic, the most luxurious and largest liner ever built at the time, was supposed to be White Star Line's ultimate weapon in this confrontation. A massive communication was conducted about luxury and comfort, but also about its safety: The Titanic was , in fact, equipped with sixteen watertight compartments to protect the ship from major damage. A reputation as an unsinkable ship developed around the Titanic.

Launched on May 31, 1911, in the presence of 100,000 people, the Titanic set sail on April 10, 1912 from Southampton, England, for her inaugural cruise. This one must lead it, the following Wednesday, to New York, with a heavy pressure on the shoulders. Bruce Ismay, president of the White Star Line and also a passenger, told the captain that if "by a happy coincidence the Titanic arrived in New York the day before, the White Star would benefit from the press the next day. Ismay's pressure on Captain Smith will not be proven by the two commissions of inquiry convened to rule on the Titanic's tragedy. What is certain, however, is that the speed of the liner continued to increase throughout the voyage, with the lighting of two additional boilers on that fateful day of April 14, 1912.

At nearly 22.5 knots or 41.7 km/h, the Titanic sailed through the icy waters of the North Atlantic. Should the speed have been reduced? It most certainly should have. Especially since on Sunday, the Titanic received at least five messages indicating the presence of ice on its route. Some of them caused no excitement among the officers. Isn't ice a natural phenomenon at this time of year? As for the others, they were simply forgotten. Although the presence of icebergs was mentioned by Commander Smith and his team, no action was taken, except to warn the lookouts, who did not have binoculars!

Then it's 11:40 p.m. It's time to hang up. The Titanic hits the iceberg despite attempts to

avoid it. Between the order to stop or to go backwards, the versions diverge. The last maneuver, oh so controversial. The 37 seconds that separate the detection of the iceberg from the impact seem interminable, so slow is the ship's reaction speed. Finally, the Titanic begins, to her misfortune, to turn around. The impact, instead of being frontal, is tangential. The ship moves along the iceberg, scraping it off. Instead of the 75-metre long tear below the waterline mentioned in 1912, the ultrasound scan of the fractured area on the wreck at 15 metres of silt shows, on the contrary, "six well defined, linear and narrow cuts, which appear to follow the alignment of the banks of the shell plates" [3]. 3] The theory, now accepted, is that the relatively progressive deformation imposed on the sheets by contact with the iceberg would have caused the metallurgically defined rivets to break.The theory, now accepted, is that the relatively gradual deformation imposed on the sheets by contact with the iceberg would have resulted in the failure of metallurgically induced water inducing rivets, far from being huge, but sufficiently distributed along the first forward third of the vessel's hull to render the vessel's subdivision ineffective. Under these conditions, the compartments filling inexorably one after the other, the Titanic will sink by breaking in two.

The sinking will have lasted, in all and for all, two hours and forty minutes. During this time, the evacuation takes place in chaotic conditions. Neither the crew nor the passengers know how to behave. While the mustering of the first-class passengers, and to a lesser extent the second-class passengers, went relatively smoothly, the third class was catastrophic. The survival rate of this class is a testament to this. The canals will be launched, with great difficulty, with 1,178 places available on board for only 711 people, while 2,200 people have to be evacuated. A terrible toll, more than 1,500 victims, for one of the biggest peacetime maritime disasters.

Product design and risk analysis

Is the design of the Titanic optimal? Has a sufficient risk analysis been done? One thing is not to have a totally optimal product. However, when the product is well known, it is possible to adapt the operating procedures in order to safeguard safety margins. For example, imposing a reduction in the maximum night-time speed limit in areas where there may be obstacles. However, this requires proper testing. In the case of the Titanic, the tests took place over a single day and during the day. How well were all the sailing circumstances tested? It is doubtful and one wonders whether the purpose of the day-long test was not to give the Titanic its certificate of seaworthiness quickly so that it could complete its maiden voyage on schedule. However, what emerges from these tests is that the vessel was able to stop for a distance of three times its length (about 800 metres) and that the handling was not as good as it should have been.This can be confirmed by the collisions that theTitanic's sister ship Olympic was involved in, particularly in 1911 while in the hands of Captain Smith. In terms of manoeuvrability, there are many indications that the Mauritania had evolutionary qualities and fast reactions at the helm, superior to that of the Titanic. A recurring question was whether the Titanic's rudder was of sufficient size. Recent calculations show that the Titanic's rudder, according to current design standards, was 15-30% smaller than what would have been required. However, by the design rules of the day, the Titanic's rudder was within the acceptable average. This points to the difficulty of appreciating an ancient event in the light of current knowledge.

The 20 canoes available were far too small a potential to evacuate the number of passengers on board. Worse, it should not be forgotten that the Titanic could carry a maximum of 3,320 people. This means that in this case, only 30% of human lives could be saved. But at the time, the regulations specified that boats over 15,000 tons had to have at

least 16 canoes. The Titanic, measuring over 46,000 tons and having 20 canoes, was therefore perfectly in order. Technical progress had made these regulations obsolete; unfortunately, common sense had not prevailed. Since regulations are rarely in advance of the event, the precautionary principle must play to the full. It seems inconceivable today to proceed differently, hence the growing development of the field of risk control.

Analysis of the need

The needs at the workstation level are a particularly important element in an audit. The case of the Titanic's lookouts, which are not equipped with binoculars, is obvious. They seem to have been forgotten on land. However, no officer, although equally equipped, will deign to lend his binoculars, a sign of his status. Would this have avoided the worst, given the moonless night and the absence of waves and therefore of foam at the base of the iceberg? There again, no certainty. But let us ask ourselves the question. At the beginning of the 21st century, are our employees well equipped to accomplish their mission? I have the memory of an employee of a large company, constantly on the move abroad, having to use his own telephone to reach his home, even if he is not at home.I remember an employee of a large company, constantly travelling abroad, having to use his own phone to reach his mother house and have support in his decision-making, while his department head, equipped with a company mobile phone, never left his office. Examples such as the Titanic show how dangerous it is to confuse operational necessity with an outward sign of power.

On-the-job training

Another fundamental parameter is vocational training. This is clearly deficient on board the Titanic. Captain Smith, the oldest and most glorious captain of the company whose passengers were fighting over the company, admitted himself: "I have never had to face a real danger or a dramatic situation". Under these conditions, was he the most qualified to lead the ship's destiny? What about his behaviour in maintaining a very high speed in ice-infested seas? A mystery. What weight could the supposed pressures exerted by the ship owner Ismay have had on an almost retired captain, if not a blow to his self-esteem? Sailing at full speed in the middle of the ice, without precautions, as Captain Smith did, is proof of a great unconsciousness. Choosing managers with real experience is therefore an absolute imperative [4]. 4] The human factor remains essential whatever the technology used.

Officer Murdoch, on watch at the time of the collision, was not familiar with the vessel's manoeuvring capacity. He will try to avoid the iceberg instead of preferring the head-on collision that the Titanic could "theoretically" have withstood. As an anecdote[5], two years later, in May 1914, Captain Wotton, commanding the Royal Edward, was faced with the same dilemma: while sailing in the North Atlantic towards Montreal, he encountered an iceberg detected at a distance of only twice the length of his ship. He has only one minute before the collision. Remembering the sinking of the Titanic, he decides to put the engines in reverse, but not to change course. The impact with the obstacle was therefore from the front. The Royal Edward escaped with relatively moderate damage. The feedback in this case has paid off. Although Murdoch's avoidance decision is understandable, what is more incomprehensible is the order to reverse or stop them according to other accounts. Indeed, slowing down during an avoidance manoeuvre reduces the effectiveness of the manoeuvre. This order will be considered to be a true malpractice. Continuing to examine the Titanic's hierarchy, we note that the sailors, who

have been handpicked, remain prisoners of their experience due to a lack of training on their new work tool. They will be wasting a lot of time operating the ship's davits, which they are unfamiliar with, and are clearly unaware that the boats can now be loaded to their maximum capacity. Tragically, most of the canoes will depart without being filled with passengers. Sailors will be unable to use the canoes to the best of their ability. Only the efficient Officer Lowe's boat No. 14, the only one to return to the scene of the tragedy in search of survivors, was able to hoist her sail.

Management of men and information

According to the testimonies, the atmosphere within the Titanic's management team was far from ideal [6]. [6] So much so that during the evacuation, some officers wanted Captain Smith's arbitration rather than following the instructions of their immediate superior, whose authority they did not recognize. Thus Wilde, the first mate, was not motivated by his appointment on the Titanic; Murdoch, the first mate, was hoping for the position of first mate; Lightoller, the second officer, wanted Murdoch's place. While the officers making up the Titanic's staff, taken from the other White Star ships, were considered the best, the gathering of talents, such as the great football teams with multiple stars but many defeats, was far from being a homogeneous team. It seems that at no time did the management of the Titanic really take ownership of the situation. The control of information within the Titanic, and in particular that of the work of the radio operators, gives us here the opportunity to talk about the problem of managing subcontractors and/or external partners. If Sunday April 14, 1912 was a peaceful day for most passengers, this was hardly the case for the two radio operators, Phillips and Bride, who had to deal with a large flow of personal messages from passengers to shore. The last chic of those days. Let's not forget that the two operators, belonging to the Marconi company, were not strictly speaking part of the ship's crew, so their aim was to make "numbers". This element will weigh heavily in the processing of information from other vessels in the area and will, among other things, mean that many of the messages arriving to warn of the presence of icebergs will be unprocessed, ignored and, worse, forgotten in a pocket.

Compliance with procedures

Finally, the Titanic's management was also deficient in terms of compliance with procedures, the very foundation of quality approaches. No pre-evacuation drill was carried out, even though it should have been held on Sunday, as required by the White Star's regulations. But Captain Smith cancelled it! Liberties with the regulations, it seems. Same thing with the transmission of distress signals. Distress procedures, which had recently been changed internationally, were not followed. Indeed, operators have used the old CQD' code, instead of the famous SOS which will finally be launched, later in the night, for the first time in history.

The aftermath of the disaster

The international scope of the Titanic disaster led to a strong political will for security, which resulted in the signing in 1914 of the SOLAS Convention, an international treaty aimed at defining various rules relating to the safety, security and operation of ships. The 1974 version of this convention is still in force.

A non-optimised design, deficient management combining casualness, arrogance and

incompetence, inadequate vocational training and lack of resources: it is difficult to find a single cause for this disaster. The Titanic tragedy remains a reference in risk management. The Costa Concordia accident is there to remind us of this.

What happened on the Costa Concordia?

The Costa Concordia accident is too recent, so the commentator's caution is called for. But how can we not draw a parallel between the two cases. The Costa Concordia, commissioned in 2006 and capable of transporting more than 4,800 people, is carrying out a cruise in the Mediterranean. Off the coast of Tuscany, on 13 January 2012, the ship, under the command of Francesco Schettino, arrives near the island of Giglio. Its speed is 15.5 knots, "which is quite fast", according to Commander John Konrad in his comments on the American reference site GCaptain. The aim of the manoeuvre is to take a route close to the island in order to carry out the "Inchino", a curtsyintended to greet the inhabitants and at the same time show the majesty of the liner. If the company seems to indicate that this manoeuvre was not planned on January 13th, it seems to be established that it had already been officially carried out on August 18th 2011. This navigation so close to the coast is inherently dangerous; however, it is apparently common practice. However, for undetermined reasons, the predefined point where the vessel must change course to proceed parallel to the island at a safe distance was missed.

This first error was fatal, but it cannot be attributed solely to the master giving orders, as the bridge personnel are assigned to check that the manoeuvre is being carried out correctly. Lack of command and/or inadequate crew training? The second error was, once the turning point had been passed, not reacting immediately with an energetic manoeuvre to slow the vessel down and get back on course, even at the cost of some inconvenience to the passengers. None of this seems to have been done. Under these conditions, the vessel, despite the captain's late efforts to move away from the coast, could not avoid collision with a reef on the islet Le Scole, located off the island of Giglio. The breach thus created on the left side of the Concordia, estimated between 70m and 100m long, will cause a major water ingress. In order to avoid the shipwreck, after a blackout caused by the collision, the captain will take a third contested decision: to ground the ship on the coast as close as possible to the port of Giglio. The ship, which had been mortally wounded, will gradually lie down on its right side. This manoeuvre was criticized because evacuation operations from a ship lying on its side are more than perilous. A probable explanation for the 32 victims, out of the 4,229 people on board, despite the proximity of the shoreline. Nevertheless, many lives were spared, apparently due to the training of the crew, the crew's efforts, and the efforts of the crew.s life-saving equipment and evacuation procedures which, in the end, proved to be effective despite the particularly difficult conditions. Commander Konrad finally tries to justify somewhat the captain's delay in requesting assistance by the need to assess the extent of the damage beforehand and to avoid panic. On this point, Viviane Seigneur explained for Le Monde that Commander Schettino had fallen into all the traps of a human being confronted with a disaster. The dodge, then the temptation to reassure by minimizing the seriousness of the situation. An attitude that will considerably delay the start of the evacuation [7].

Titanic **and** Costa Concordia

Excessive speed seems to be at the initialization of the dramas. Poor management of the problem is in both cases related to command and communication failures among bridge personnel and/or training deficiencies. Fortunately, in the case of the Concordia, with

better environmental conditions, sufficient canoes, and a better trained crew overall than on the Titanic, the evacuation was more successful and a fatality was avoided. However, the history of the Costa Concordia is proof that despite the contributions of the SOLAS treaty, the penetration of risk sciences into professional cultures remains difficult.

Management and training in the workplace seem, a century apart, to remain the key to risk control, and pride is its Achilles heel. Titanic or Costa Concordia, the desire to impress one's contemporary is one of the root causes of both accidents.

1] Landier H., The Titanic, a lesson for our companies? September 1986.

2] To know everything about the circumstances of the sinking of the Titanic, Mr. François Codet".The Titanic dictionary", by Marines Éditions, April 2012.

[3] Olivier C. A. Bisanti, "Titanic, a metallurgical autopsy", October 16, 2001.

4] Henry Lang, "[4] Henry Lang, "Titanic Management", Éditions d'Organisation, April 1999.

[5] http://www.encyclopedia-titanica.org/

6] Michel Berry, "Vigilance et organisation, les leçons du Titanic", Dossier de la revue des mines, September-October 2008.

7] The cautious approach adopted when writing the initial article seems relevant. Indeed, since the article was written in 2012, the commander of the Costa Concordia, in various interviews, attributes the origin of the drama to execution errors made by some members of his crew. The commander claims to rely on data from the ship's black box. Let us therefore wait for the results of the investigation before making a final judgment. In any case, what was important here was to study the similarities between the two accidents in order to draw lessons that can be reused by risk management professionals.

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