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Maritime accidents in passenger ships and derivative liability: Costa Concordia and Sewol

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ABSTRACT

The recent accidents that have occurred in passenger ships at an international level, such as that of Costa Concordia (2012) in the Mediterranean Sea or Sewol (2014) in waters off South Korea, have shown first of all the responsibility in said claims of the crew and mainly of the ship's captain on the lives of the passengers. At the level of public opinion, the captain seems to be solely responsible for these incidents; However, over time we see how the responsibility is also usually addressed to other members of the crew, who end up being prosecuted in criminal proceedings. However, it is usual that the responsibility of other important stakeholders in the sector (shipping, classification society, maritime administration, etc ...) is reduced and even silenced, putting the focus as already mentioned in the malpractice of the crew and mainly of the Captain; in such a way that it is difficult for victims and relatives to file claims against them when such accidents occur, especially due to the amount of obstacles they encounter and the difficulty of litigating against companies with significant economic resources, unless they are constituted groups of affected people who sue them together to minimize costs. The cases mentioned, have had great media coverage and in both, the actions of the captains of Costa Concordia (Francesco Schettino) and Sewol (Lee Joon-seok), are just two years apart two clear examples of malpractice by of these officers on passenger ships that have cost the lives of a large number of people (32 of the Costa Concordia for 293 of the Sewol); but it draws attention as in accidents of this type, practically they are the only people to those who have been condemned, from the penal point of view and nevertheless practically the rest of people either of the crew or even of the administration in some cases they have not even been imputed. Through our work, we want to carry out a comparison of the responsibilities derived from both accidents, for each one of the involved actors and at the same time compare the consequences and the measures adopted by the justice in function of the country where the accident takes place. In addition, it is important to study the role of the rest of the crew in an emergency situation and how it can affect the development of the same; and how, however, the responsibility for them may not be entirely clear; highlighting the importance that research in maritime accidents acquires in these situations

1. Introduction.

January 13, 2012 and April 16, 2014 will be remembered as two tragic dates for the maritime sector. Accidents occurred in a short time, practically on both ends of the planet, with a significant number of fatalities between them.

These accidents presented many similarities that we will unpack throughout this work, but above all we are interested in those where we can see how the responsibility of the main responsible for each of the episodes is judged, captains Francesco

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Schettino and Lee Jon-seok, also taking into account their way of proceeding in each case and of organizing the crew and their dependents. Both cases caused a tremendous impact on public opinion, precisely due to the abandonment of the ship in full distress and the abandonment of its functions by both officers, revealing to what extent the crew and passengers in their charge assumed a risk without knowing it, when the boats are under the command of people like these.

Many safety measures can be taken, but accidents are inevitable, up to that point we can all agree, especially when statistics tell us that a very high percentage of them are due to the human factor; But what is really worrying about these two cases and what has really caused a great media commotion is not this, but the attitude of both captains in the face of an emergency situation for which they must take responsibility and safeguard the lives of people who travel on boats that are under his command. Human beings, in general terms, do not usually put our lives at risk, or at least we must have the feeling that this risk is controlled, either by ourselves or by another human being prepared for it (for this reason we are able to move in different ways. transportation such as buses, boats, planes, etc ...), in whose preparation and skills we trust at least for a time our physical integrity; But what can happen if we cannot trust that those people who are in charge are going to assume their responsibility? Certainly a difficult question to answer, but one that surely collides head-on with the moral and ethical convictions of practically all of the world population.

2. Background.

2.1. Costa Concordia.

Figure 1: Costa Concordia Cruise.

Source: grijalvo.com.

The Costa Concordia, built in 2004 by Fincantieri in Sestri Ponente, Genoa, Italy, was one of the most luxurious ships of the Costa Cruises shipping company.

On January 13, 2012, at 9:42 p.m., the Costa Concordia was wrecked off the Italian island of Giglio, located in the well-known region of Tuscany. The large ship suffered a breach in the hull and was subsequently beached, in a risky maneuver by Captain Francesco Schettino. The ship came too close to the coast, and the contact with the rocks at the bottom led to the creation of a waterway of about 70 meters along the hull, which in a short time caused the ship to list to its side starboard, which led it to be heavily heeled, with the serious consequences of 32 dead, and 4197 evacuated.

Details of the ship

- Name: Costa Concordia
- IMO: 9320544
- Call-sign: IBHD
- MMSI: 247158500
- Build year: January 19, 2004
- Build place: Fincantieri in Sestri Ponente, Génova, Italia
- Shipyard: Shipyard Prà Volti de Génova.
- Flag: Italy
- Classification society: RINA
- Tonnage: 114.000 GT.
- Lenght total: 290,20 m
- Breadth: 35,50 m
- Speed: 19,6 kn.

Accident Data

- Date: January 13, 2012
- Hour: 21:42 (Local time)
- Cause: Collision with bedrock. (Le Scole) 800 m. south of port entrance.
- Place: Italy, in front of Giglio's Island (Toscana).
- Coordinates: 42º 21' 53" N, 010º 55' 17" E
- Last stop: Civitavecchia.
- Arrival port: Stopover in Savona, to continue to Marsella, Barcelona, Palma, Cagliari and Palermo
- Crew: 1023.
- Casualties: 32 (64 injured)
- Survivors: 4.197 (4.229 total people onboard)

The Costa Concordia was making the crossing Palermo (Sicily), Civitavecchia (Rome), Savona (Genoa), Marseille (France), Barcelona (Spain), Palma de Mallorca (Spain) and Cagliari (Sardinia). The ship was sailing towards Savona, after having visited Civitavecchia.

It was a relatively new ship that had multiple security systems.

The accident occurred on the night of January 13, 2012 after a strong impact with a large rock (21:45 hours) as a result of a maneuver getting too close to the coast and which was not correctly assessed by the officers in command (Gordon, 2015).

At the moment of impact, a large part of the passage is in the restaurant where dinner is served, or in entertainment venues. Passengers do not know what has happened and there are moments of great confusion, as there is no truthful information about the situation. The situation lasts for almost 40 minutes.

As we will see, calls are even received from the marine land control and it is deliberately hidden that the ship had collided with a small reef that left a huge rock of almost 100 tons embedded in the ship's hull.

The agony of the ship begins at 22:24 when the inclination of the ship, initially to port, which is the side where the huge rock is embedded, goes from port to starboard. After the collision, the ship continued to sail, stopping at 21:58 and probably heading for the port of Giglio, but ended up running aground a short distance from it, perhaps due to the prevailing current and wind. At 22:34 the emergency signal is given and at 22:47, with the ship touching and the coast, the maneuvering of lowering the boats and abandoning the ship begins. At approximately 10:57 pm, the stern presents a huge volume of water, with compartments 4, 5, 6, 7 and 8 flooded. It was decided to launch the anchors and a few minutes later, the bow of the ship hit bottom (Senauth, 2013).

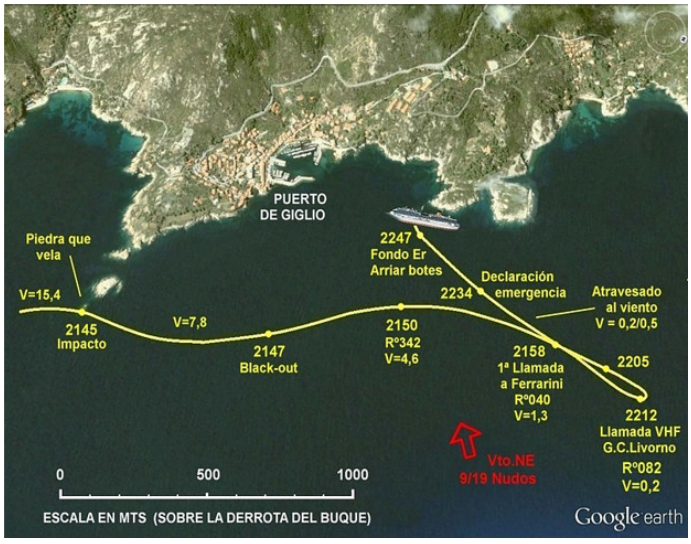
In the midst of this situation and the chaos between the crew and the passage due to the lack of information and direction in operations, some intermittent power cuts occur, which increase the anxiety, anguish and fear of the passengers. Lack of electricity only allows the ship's "black box" or VDR to only record information until approximately 11:36 p.m.

To find out what happened next, the testimonies of the people present at that fateful moment have had to be used.

At 23:40, the heeling angle continues to increase gradually and one of the most incredible events of this event occurs. At that time, the ship's captain leaves himself with other crew members, on the starboard side, knowing that there are still more than 200 people left on the ship on the starboard side. (Giuffrida, 2012).

At 00:41 on January 14, the ship already has a list of almost 40º, at which time it is known that the first deaths begin to occur.

Figure 2: Defeat of the "Costa Concordia" prior to the first impact.



Source: grijalvo.com.

At 02:14 on January 14, the ship's lights go out permanently and it is completely dark, with passengers still on board and completely lying on the starboard side, with a trail of people on the ship's hull, as you can check it on the infrared videos taken from the rescue aircraft (Larrucea, Seguridad marítima: Teoría general del riesgo, 2015).

Finally, at 04:46 in the morning, the evacuation of the ship was completed, with a balance of 32 deceased.

As soon as the news was known, all the news programs opened their cover, indicating how Francesco Schettino was solely responsible, given that there were recorded audio recordings and images in which there was no doubt that the captain had left the ship, generating one of the most serious situations. surrealists who have been seen in an emergency of this type, when Commander De Falco of the Captaincy of Livorno questioned Schettino by phone, repeatedly shouting the famous phrase (Montanari, 2014) "Vada a bordo, cazzo!" (¡Get back on board, damn!) (Fabio Massa, 2012).

Given the situation that caused the accident, safety maneuvers were crucial to carry out quickly and effectively.

In the specific case of the Costa Concordia, the captain raised the alarm 45 minutes after the incident in order to be evacuated (Lieto, 2015); according to his statements, the delay was motivated, according to his criteria, for reasons of avoiding as far as possible the panic between passengers and crew. In addition, he stated that this time would allow him to assess the damage and thus make sure whether it was more convenient to stay on board or not. Finally, when he was aware of the great damage that had occurred in the hull and that the water had already flooded several decks and therefore the ship was no longer a safe place because it was doomed to the imminent sinking, only at that moment did he give the voice of alarm leaving him himself when there were still hundreds of people on board, and therefore, leaving them to their fate.

Before this fatal event occurred, the Costa Concordia had

carried out the drills to which the regulations require, but from experience these are not drills that allow us to foresee a situation like that experienced in the Costa Concordia; in addition they are only carried out with the crew and normally without anomalous situations such as heeling. This had important consequences, as chaos reigned and the lack of information made people on board increase their nervousness. There was no clear organization, the crew was unclear what to do, who was running the operation, how to use and the exact location of the rescue material, language difficulties, etc. (Douglas, 2016).

Figure 3: Sinking of the Costa Concordia.

Source: cruceroadicto.com.

Once the emergency was triggered, some passengers chose to jump into the water without waiting for instructions, of which some drowned and others managed to be rescued alive. On the other hand, the lifeboats took 45 minutes to lower as crew members were reluctant to lower them, although it is true that they had not received the order to abandon the ship.

Figure 4: Francesco Schettino.

Source: lavoz.com.ar.

Despite this, the vast majority of the passage and crew were able to put on the lifejacket and reach the boats and rafts (decks 3 and 4) but there were people who were trapped in the cabins (once the power plant failed, the cabins were automatically closed). Some rafts did not open automatically when falling into the water as might be expected as they were not in optimal conditions. Others were hit hard against the hull of the Costa Concordia given the pronounced list of the ship.

The survivors assured the Tuscan court in Grosseto that the orders given by the ship's officers to the passengers to return to their cabins was a death sentence for many who were trapped by the rising waters when the ship sank. They claimed that even the crew did not know what to do.

The Italian rescue team (also aerial rescue with Coast Guard helicopters) and firefighters (a body specialized in caving and diving), were essential in the rescue, managing to reach some of the people trapped in the cabins, listening to their screams. The performance of the citizens was essential in the first moments as they approached the place with blankets and hot drinks in addition to providing help and comfort to the castaways. Churches, schools, hotels and houses opened their doors to welcome the bewildered and frightened castaways. Highlight the figure of the Deputy Mayor, Mario Pellegrini who, without thinking about it, while the captain left the ship, he approached it to try to help and rescue survivors, being the last to leave the boat. After the search for survivors was completed, the Dutch rescue company Smith International removed the more than two million liters of fuel from the ship.

In the aftermath of the tragedy, the safety measures on ships have been rectified and a certain number of drills are mandatory on every boat, especially in the case of ships carrying large numbers of passengers where technical difficulties add to panic.

Regarding the causes of the accident, there are two very different hypotheses. The first, according to official data, appears from the investigations of the experts where they blatantly hold Captain Schettino, these professionals saying that the ship was in perfect condition before the incident and, therefore, it occurred due to the incapacity and the captain's lack of sanity. The second hypothesis, provided by another group of experts and representing the defense of Francesco Schettino, after analysis of the ship's black box, discovered that there were various anomalies that had not been pointed out by the other experts (one of the radars, there were open gates that should be closed, the central engine and generator were turned off 10 minutes after the collision, they were navigating with ECDIS nautical charts but no officer on board had been trained in their use and reading and, therefore, did not understand this system , etc.). Furthermore, according to the information provided, Captain Schettino was not on the command bridge at the time of the collision. (Bruno Neri, 2013).

To clarify the causes and associated responsibilities, an official investigation was initiated, based on the data collected in the RDT (Recorder of crossing data) or "black box", which contains files consisting of the actual description and not manipulated from the events that occurred, detailed and reliable. These data allow a reconstruction of what happened and instructed by judge Valeria Montesarchio, supported by a commission made up of four experts from various disciplines: Giuseppe Cavo Dragone (commander of the Naval Academy of Livorno), Professor Enzo dalle Mese (professor of Telecommunications of the University of Pisa), Professor Mario Maestro (professor of

Naval Construction at the University of Trieste) and Admiral Giuseppe Carpinteri (Commander of the Captaincy of the Port of Palermo). In the official investigation, a series of important aspects are taken into account, in order to measure the responsibility of Schettino and the shipping company (Marine Casualties Investigation Body., 2012); on April 4, 2012, after the analysis of the telematic traffic of the Costa Concordia the day of the incident and the previous days, placing special emphasis on the emails relating to the companies that were dedicated to the proper operation and control of the instrumentation on board and that of the ship itself Costa Concordia with Costa Cruises regarding the change of route or request to bow. Also, on that same date, the use of radars is analyzed. Costa Cruises did not provide data regarding this point requested by the judge.

On June 18, 2012, the experts asked the judge for data and information on the ship regarding its construction and project of the ship. Thus, for example, it is concluded: the emergency diesel generator was never started, therefore, therefore, the power supply was missing at the rudders, in the gates, in the bilge pumps, elevators, cables to lower the life rafts ...) The judge dismisses giving information about these data as they are considered irrelevant in the case.

Figure 5: Costa Concordia damaged ship's hull.

Source: naucher.com.

Twenty months after the shipwreck, the cruise ship was refloated and transferred to the Prà-Voltri and Sampierdarena shipyards, in the port of Genoa, for its complete scrapping, an operation that would last almost two years.

The trial against Captain Francesco Schettino would end on February 11, 2015, where after seven hours of deliberation, the Grosseto court judges found Francesco Schettino guilty of the crimes of multiple wrongful death, abandonment of the ship, shipwreck and not to have immediately informed the port authorities of the collision against the reef that caused the disaster, sentencing him to 16 years in prison (Ordaz, 2015).

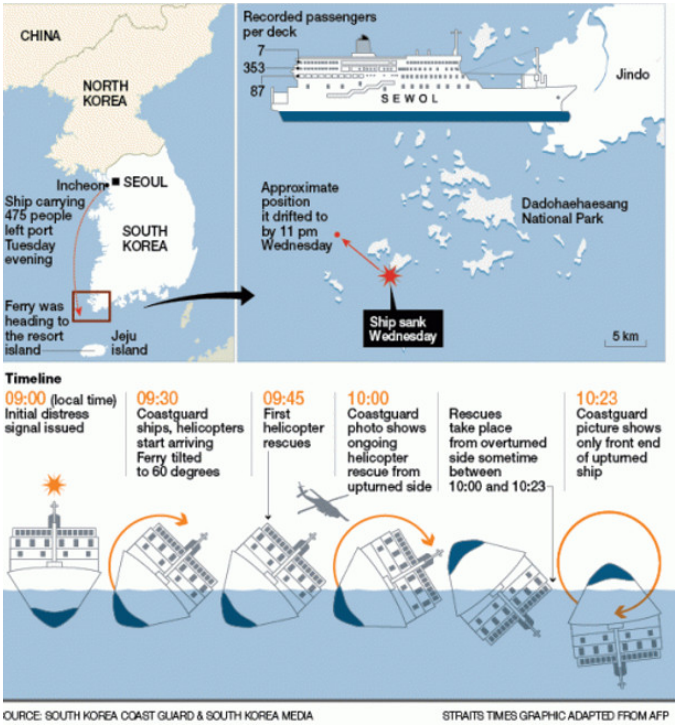
2.2. *Sewol.*

Figure 6: Ferry MV Sewol.

Source: noticiaslogisticaytransporte.com.

The Sewol, a passenger Ro-Ro ferry, was delayed leaving Incheon Port for Jeju Island on April 15, 2014. The ship issued a distress signal at 9:00 local time the following day. when he was near the Jindo islands, in the Maenggol channel, 3 hours from his destination. During the passage through this channel, the ship made a sudden change of direction. At that moment, the passengers heard a strong blow (possible collision or shift of cargo) and saw the ship begin a fast list towards the port side. The passengers, mostly high school students, did not move from their places, at all times obeying the orders they had been given from the public address system. When they wanted to escape it was too late since the water was entering and the list was so large that it was impossible to leave the ship. The Sewol would end up sinking with hundreds of people trapped inside (just over 300 dead), leaving the bow bulb out of the water and the stern sunk 30 meters deep (Suh & Kim, 2017).

Figure 7: South Korea ferry accident.



Source: reddit.com.

The Sewol always made the same journey on a thirteen-hour journey between Incheon and Jeju.

Details of the ship

- Name: MV SEWOL
- Other names: NAMINOUE (1994-2012)
- IMO: 9105205
- Call-sign: 121832
- MMSI: 440000400
- Build year: 1994
- Build place: Nagasaki, Japan.
- Shipyard: Hayashikane Shipbuilding & Engineering Co. Ltd.
- Flag: South Korea.
- Classification society: Korean Register of Shipping.
- Tonnage: 6586 GRT.
- Lenght total: 146 m
- Breadth: 22 m
- Speed: 21,7 kn.

Accident Data

- Date: April 16, 2014
- Hour: 9:00 (Local time)
- Cause: Sharp 15° turn that caused the ship to heel and be unable to regain stability due to overload and structural changes that had altered its center of gravity.
- Place: Maenggol Canal, near the Jindo islands.
- Coordinates: 34º 13' 55" N, 125º 57' 00" E
- Last stop: Incheon.
- Arrival port: Jeju City.
- Passengers: 443.
- Crew: 33.
- Casualties: 299 (on-board, 2 rescue divers and 5 emergency workers)
- Survivors: 172.

The Sewol left the city of Incheon late on the night of April 15 due to fog. As in many of its trips it was overloaded (3608 Tn) with respect to the regulatory 987tn, tripling its maximum load. Due to the delay in leaving the port, they decided to go through the Maenggol channel, a channel with strong currents, at high speed (Kim, 2015).

On April 16 when they were inside the 3-mile-wide Maenggol Channel, the ship made a sharp change in direction (above 15 °) causing the Sewol to lurch and fall to the port side. According to statements from surviving passengers, when the change of direction occurred, they heard a loud thud, and the ship subsequently began a quick list towards a gang. At 9:00 a.m. Sewol was making a distress call.

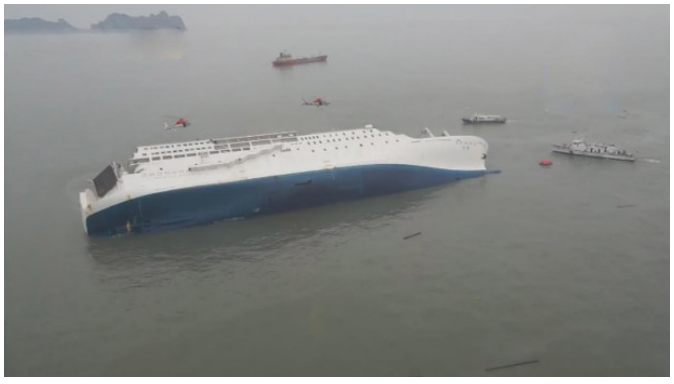
Upon the arrival of the Korean Salvage patrols they proceeded to collect the people who were floating in the water, to prudently approach the ship that was listing with hundreds of people trapped. The water continued to enter the Sewol until the ship lost its stability due to the weight of the water on board and completely turned around leaving its keel exposed to the sun. The stern sank 30 meters deep and the bow bulb was left out of the water.

The sinking of the Sewol brought with it all those people who, respecting the orders they had been given since the public address system, stayed at their posts waiting for new orders that never came.

At the time of initiating the investigation and before the prosecution and investigators ruled, various hypotheses were considered, such as the fact that the ship had collided with a rock that could have breached the hull, so that water entered the interior of the ship and caused its sinking. This hypothesis was taken into account at the time, since many witnesses reported having heard a loud roar (Gorlov, 2014).

After the sharp turn there was a shift in cargo due to not being lashed or fixed to fixed places, which also prevented the ship from returning to the upright position. In addition, this, together with the illegal remodeling that it had undergone by adding covers and the overload that it presented (tripling the maximum allowed), undoubtedly affected the position of the ship's center of gravity.

Figure 8: Sewol ferry last moments.



Source: Choi Soo Hee.

The captain is the maximum responsible for both the peo-

ple on board and for executing the action protocol in case of an emergency. In the case of Sewol, the captain gave the order for everyone to remain in their posts, awaiting further instructions over the public address system, which would never come, because Lee Junk-seok (captain of Sewol) would leave the ship with other officers and part of the crew, leaving hundreds of passengers behind.

When the passengers tried to get out of the boat it was too late, the pronounced heeling and the entry of water into it made it impossible to exit. The only survivors were those on deck who were able to jump into the water and be rescued by helicopter.

One fact, which undoubtedly makes this event more dramatic, are the videos, messages and calls that were recorded by the people trapped in the boat, and which we will analyze later in this work. There is evidence, without a doubt, of the faith they placed in the crew members, who finally left them abandoned. Asian countries such as Korea, Japan, China, etc ... are characterized by people who show a strict sense of compliance with the rules and respect their elders. The order was to stay in the cabins and we can see that it was not discussed or questioned at any time.

At 9:00 a.m. The Sewol made the first distress call, being answered by the Coast Guard who moved to the place with few boats and a helicopter in a disorganized and slow way. Upon arrival they would help the few people who managed to jump into the water and those who were still holding onto the railings of the opposing gang by helicopter.

It would not be until hours later when the Coast Guard and the Korean Navy would be activated with an operation consisting of 34 ships and 18 helicopters that would join the first ships of the Coast Guard (Jin & Song, 2017).

212 boats, 34 planes and 550 emergency personnel participated in the search for bodies and rescue of possible survivors.

The Sewol during its construction accepted the 1974 SOLAS agreement with amendments approved from 1974 to 1994 for new ships, but after its sale it ceased to accept this standard and used the Korean standards for its equipment, which allowed it to sail without lifeboats, only with inflatable rafts, because it was a cabotage ship and its proximity to the coast would allow the rapid arrival of help in the event of an accident. (Cho & Yoon, 2015).

The investigation revealed that the rafts' firing mechanism was not in good condition, so none worked at the time of the sinking.

After five months of investigation, in early October, the Prosecutor's Office presented the conclusions of the sinking of the Sewol:

1. The sinking occurred after making a sharp turn by an inexperienced officer on duty next to the helmsman.

2. According to sources of the investigation, the shipowner had warned the captain and crew not to make sudden changes of direction, aware of the fragility of the ship to get up because: it had been illegally reformed to increase the number of people with the construction of a new sector (raising the ship's center of gravity);

3. It tripled the maximum load allowed, something the shipowner did deliberately and routinely to increase his per-trip benefits; and

4. It lacked ballast water tanks to correct the elevation of the center of gravity.

This caused the boat to list on the port side and could not get up, causing water to subsequently enter the interior of the boat with the subsequent sinking of the boat.

The prosecution initially requested the death penalty for the captain for homicide, it was subsequently reduced to life imprisonment and finally on November 11, 2014, the final sentence sentenced him, at 69 years of age, to 36 years in prison for accidental homicide, for escape the ship without attending to the safety of the passengers during the shipwreck.

The judge stated in his sentence that (Agencia EFE, 2014):

"the captain was ultimately responsible for the tragic end of the shipwreck, as he delayed the evacuation order, failed to take appropriate action when the ship began to sink, and subsequently made no effort to rescue passengers".

Fourteen other officers, including chief engineer Park, were also sentenced to 30 years, the latter for intentional homicide, when leaving a wounded comrade in a cabin. The first and second officers were sentenced to 20 and 15 years in prison respectively. The rest of the officers and crew who left the ship without organizing the aid to the passengers who were inside the ship were sentenced to between five and ten years in prison. They also hold those responsible for the rescue organization responsible for their slow response and arrival at the scene. (Lim, Moon, & Oh, 2016).

Figure 9: Captain Lee Joon-seok.

Source: elmundo.es.

The collapse of the Sewol had a major impact on the media worldwide, socially and politically, to the point that the security minister left his government post due to strong criticism of his management of the accident (Kirk, 2015).

3. Discussion.

The recent accidents that have occurred in passenger ships at the international level such as the Costa Concordia (2012) in

the Mediterranean or the Sewol (2014) in South Korea, represent two cases that present important similarities from the point of view of the decisions that are made by the officers of both ships, mainly by the captains in command and the tragic consequences for all known of both accidents. These accidents have revealed the responsibility of the crew, first and foremost, of the ship's captain on the lives of the passengers in their charge.

Although, over time, we see how the responsibility is usually directed only to the captain and rarely other crew members are prosecuted in criminal proceedings. It is also quite normal that other important actors involved in the sector (shipping company, classification society, maritime administration, etc..) have practically no responsibility for the accident and that often the victims or their families when filing claims or compensation they find nothing but obstacles in this task. The performance of the captains of the Costa Concordia (Francesco Schettino) and Sewol (Lee Joon-seok), with just two years apart, two clear examples of malpractice of passenger ship captains and that have cost the lives of large numbers of people (32 from the Costa Concordia to 293 from the Sewol); but it is striking as in accidents of this type, they are practically the only people who have been sentenced, from the criminal point of view and yet practically the rest of the people, either from the crew or even from the administration, have not been not even charged.

One of the most important decisions that a merchant marine captain must make during his career, if circumstances require it, is the abandonment of the ship. Anyone can intuit without too much difficulty, the hostility that the sea represents for the human being. Currents, waves, low temperatures, predators, etc., put at risk the human being who has to be exposed to this medium.

When an emergency occurs on board a ship, which may jeopardize the integrity of the ship, we must bear in mind that the ship is always the best way to keep us safe; as a maxim well known to seafarers says: "Let's save the ship and it will save us"; however, on multiple occasions, staying there implies that the survival options are less than abandoning it; at least immediately.

The decision to abandon the ship corresponds to the captain; failing that, the next commanding officer; therein lies the problem. When it comes to a ship with passage on board, the emergency conditions, the number and type of people on board, among other factors are determining factors in the operation. Taking all these into account, analyzing them and having the support of the rest of the officers, the captain will give the order to abandon the ship and consequently will be in charge of organizing the operations, directing the rest of the crew involved. In this state, it is assumed that the experience, the perfect knowledge of the captain of your ship, the means and resources on board and its crew, endows you with an inherent ability to manage a situation of these characteristics with the maximum guarantees of success.

But we must not lose sight of the fact that officers and crew do not stop being human beings and their behavior in a situation like the one described may differ from one moment to the next. It is an exceptional situation and the response of these people will be decisive. Psychology has already dealt with this issue extensively, as it does not exclusively affect emergencies at sea, but any type, regardless of the environment or medium where it occurs; several authors have made reference to this, even defining a certain field of psychology, calling emergency psychology "that branch of general psychology that studies the different changes and personal phenomena present in a dangerous situation, be it natural or caused by man casually or intentionally" (Araya, 1992).

In order to improve the response to emergency situations, which in themselves are usually unexpected and unpredictable, you must first plan for them; second, making a suitable selection of the personnel involved in charge of the emergency situation, so that present a certain psychological and followed by the corresponding education and training (both operating as psychological) profile.

One of the most important moments is the one that involves how the emergency is going to be communicated and the preparation for it is vital. Experience indicates that, although the part of training received by merchant seafarers is sufficient, neither these, nor practically any professional, receives in-depth training in emergency management to prepare them for situations of this nature.

Normally, emergency situations, apart from the danger they entail, are usually more controllable if the information flows efficiently in the case at hand, from the crew to the passage. In this sense, we agree with the psychologist Mª Patricia Acinas, Psychologist. Specialist in Psychology of Urgencies, Emergencies and Catastrophes. IPSE National Supervisor - Specialized Psychological Intervention.:

"An alert message can provide the population with information about the imminent risks that have precipitated the emergency alert."

"Informing the population about the characteristics of the risk will minimize the likelihood that people will misinterpret the risk and make incorrect decisions about what to do, especially in protracted emergencies."

"Information does not lead to panic."

In the cases that we are going to analyze in this document, we find a priori a series of common characteristics at a basic level, which we will study in greater depth below. Firstly, the emergency situation occurs in both cases (Consta Concordia in 2012 and Sewol in 2014), due to negligence on the part of the crew in their way of proceeding; This negligence causes an emergency situation that is not conveniently managed by the personnel on board, the captains neglect their functions in managing the emergency and leave the ship during it, remaining members of the passage on board; the emergency situation in both cases results in the total loss of the ships and, what is worse, the loss of a significant number of human lives (about thirty in the Costa Concordia, for about three hundred in the Sewol); although we have to study why such a difference occurs from one event to another.

If we analyze both accidents, we can find similarities that we will comment on:

At the time of the accidents, none of the captains was on the bridge, Schettino was chatting with some friends during the dinner service and Joon-seok in his cabin; the first was not clear

who was on the bridge handling the ship at the time and in the case of Sewol, the ship was under the command of the third officer, an expert in the area.

The order to abandon the ship was issued late, and in both accidents, erroneous information was given to passengers, when both situations were critical. Both ships took just over an hour to list, which is plenty of time to orderly evacuate all passengers; however, indecision and lack of control in the management of the emergency caused a large number of deaths. In the case of the Costa Concordia, the luck was that the heeling occurred towards the starboard side and only a part of the ship was submerged; if not, perhaps the number of human losses could even be comparable to the Korean ship.

Both captains leave the ship without fulfilling their mission to conveniently manage the emergency and ensure that the passengers were safe. The conversation between Francesco Schettino and De Falco, Captain of the Port of Giglio, is incredibly tacitly ordering him to return to the ship. Joon-seok and his 28-crew survived for the most part, leaving more than 300 people to their fate. Negligence is indisputable in both cases, but their way of acting is unforgivable.

Both ships were gradually listed, which as many passengers indicated, made it very difficult to move around them as soon as the emergency occurs, so evacuation must be done quickly and in an orderly manner. This has not yet been considered in the design of the decks, in order to facilitate the evacuation of the ship.

After the total list of both ships occurred, with a good part of the Costa concordia submerged and the Sewol, totally sunk as shown in the graphs, the divers who acted in both cases point out the difficulties encountered in the rescue, having to drill plates from the ship to access and find total darkness that in addition to complicating work, turned both ships into real mazes.

After seeing the similarities between both accidents, it is true that there are some differences that aggravate the situation in the case of the Korean ship. Although both maneuvers were erroneous, in the case of the Sewol, it had undergone an unauthorized reform that significantly reduced the stability of the ship; Furthermore, it has been demonstrated that it was transporting three times the load it was authorized to carry, which can be considered serious aggravations, beyond the maneuver carried out by rapidly turning 15º.

Table 1: Accident comparison.

	Costa Concordia	Sewol
Passengers	3206	443
Crew	1023	33
Deceased/missing	32	304
Survivors	4197	172
% Deceased	0,76	63,9

Source: Authors.

Schettino was in the Costa Concordia case, practically the only one convicted, by an Italian court, to 16 years in prison (appealed and the sentence later confirmed although the Prosecutor's Office requested 26 years and three months in prison) for involuntary manslaughter and a fine of one million euros; in addition, five more officers would be sentenced to between 15 and 34 months.

Joon-seok, who was initially asked for the death penalty for murder, was reduced to 36 years in prison, and later on appeal he would be sentenced to life in prison for accidental manslaughter, plus 30 years in prison for the chief engineer, 20 years for the first ferry officer and 15 years for the second officer, for omitting his duty of help when the ship sank; and sentences of between 5 and 6 years for the rest of the crew (some of them reduced later). A claim for compensation of $ 21,700 was filed in South Korea against the state and the captain of the Sewol ferry, shortly after the accident, by the relative of one of those killed in the accident. If the South Korean court rules in favor of the mother of the deceased, the compensation could be multiplied by 20 and this was followed by others.

Conclusion.

If both accidents and convictions are compared, we see that precisely in the case of Sewol, the sentences are longer, but they are not comparable to those of Schettino, at least if we compare those of the captains; although it is true that we could consider that Schettino was "very lucky" because of the situation and how a good part of his crew responded, beyond the mistakes made during the operation.

International regulations, as we have already commented, require that when an accident occurs on a ship, the flag state is obliged to carry out an investigation of the incident and issue a report.

If we compare the previously seen cases of the Costa Concordia in 2012, with the Sewol (2014), taking into account the differences between them in terms of the time until the loss of the ship, its dimensions and other environmental factors, we find that in response to an indication or order if it seems more appropriate for us to keep the passage in their cabins during the emergency, we can see how it is assumed differently on both ships.

While the Costa Concordia passengers practically did not comply with the order and moved to the decks and evacuation stations along with the lifeboats, even though the number of people on board was greater, they did not follow the captain's instructions, however in the case of the Sewol, being less passengers, mostly young people, it is possible that in this case, a classic oriental culture accustomed to respect and compliance with norms and directives, did not make them aware of the danger they were in staying on board, despite being ordered to do so, which led to the tragic consequences we have seen. In the face of erroneous security decisions, these cases show that it is important to assess and discuss whether the people in charge are really doing the right thing.

References.

Agencia EFE. (11 de noviembre de 2014). Condenan a 36 años de cárcel al capitán del ferry surcoreano Sewol. elmundo.es - Edición Digital, pág. http://www.elmundo.es/internacional/2014-/11/11/5461a1f122601db15a8b456d.html.

Bruno Neri, A. M. (2013). Costa Concordia: l'altro volto della verità. ETS.

Cho, J. K., & Yoon, S. (2015). A note on the marine policy of the ferry Sewol-ho disaster in Korea. American Journal of Applied Sciences, Vol.12 (3), 229-236.

Douglas, D. (2016). Titanic to Costa Concordia: A Radical View at SOLAS and Its Position in Safety and Management in the Twenty First Century Maritime World. LAP Lambert Academic Publishing.

Fabio Massa, L. L. (2012). Vada a bordo, cazzo! Le carte segrete del naufragio Concordia. Affari Italiani Editore.

Giuffrida, A. (2012). Quella notte al Giglio. Roma: Sovera Edizioni.

Gordon, S. (2015). A History of the World in Sixteen Shipwrecks. Nueva Inglaterra: ForeEdge.

Gorlov, A. (2014). Some Speculations about the Capsizing of the Sewol Korean Ferry. Journal of Fundamentals of Renewable Energy and Applications Vol.05 (1).

Jin, J., & Song, G. (2017). Bureaucratic Accountability and Disaster Response: Why Did the Korea Coast Guard Fail in Its Rescue Mission During the Sewol Ferry Accident? Risk, Hazards & Crisis in Public Policy, Vol.8 (2), 220-243.

Kim, S. K. (2015). The Sewol Ferry Disaster in Korea and Maritime Safety Management. Ocean Development & International Law 46 (4), 345-358.

Kirk, D. (14 de abril de 2015). South Korea ferry disaster: Victims' families express outrage at government's failure to conduct full inquiry and recover bodies. Independent - Edición Digital, págs. http://www.independent.co.uk/news/world/asia/-south-korea-ferry-disaster-victims-families-express-outrage-at-governments-failure-to-conduct-full-10176757.html.

Larrucea, J. R. (2015). Seguridad marítima: Teoría general del riesgo. Sabadell (Barcelona): Marge Books.

Lieto, A. D. (2015). Bridge Resource Management: From the Costa Concordia to Navigation in the Digital Age. Hydeas Pty, Limited.

Lim, S., Moon, J., & Oh, Y. (2016). Policing Reform in the South Korean Maritime Police After the Sewol Ferry Disaster. Public Administration and Development, Vol.36 (2), 144-156.

Marine Casualties Investigation Body. (2012). Cruise Ship: Costa Concordia. Report on the safety technical investigation. Roma: Ministry of Infrastructures and Transports (MIT).

Montanari, L. (25 de septiembre de 2014). De Falco: "Schettino in cattedra e io spedito in ufficio, questo Paese storto punisce i suoi servitori". repubblica.it - Edición Digital, págs. http://www.-repubblica.it/cronaca/2014/09/25/news/de_falco_schettino_in_cattedra_e_io_spedito_in_ufficio_questo_paese_storto_punisce_i_suoi-_servitori-96605175/?refresh_ce.

Ordaz, P. (11 de febrero de 2015). La Justicia italiana condena a 16 años al capitán del 'Costa Concordia'. elpais.com, pág. https://elpais.com/internacional/2015/02/11/actualidad/142368-2180_280506.html.

Senauth, F. (2013). The Sinking and the Rising of the Costa Concordia. Londres: AuthorHouse.

Suh, J.-J., & Kim, M. (2017). Challenges of Modernization and Governance in South Korea: The Sinking of the Sewol and Its Causes. Palgrave Macmillan.