

*Apollo 13 is a story of leadership, resilience, problem solving and team*

*work.*

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Key Leadership Skills Observed in Central Character Roles of Apollo 13

***Jim Lovell: Astronaut (Commander).***

Lovell epitomises the leadership quality of communication throughout the Apollo 13 lunar mission. I believe this was a key factor in ensuring that the three astronauts returned to earth safely on a mission which became famously known as “a successful failure”. It is through the use of precise, complete and non-alarmist data that Lovell is able to maintain control in what is a truly chaotic situation. This is excellent usage of his leadership skills as it built up a level of confidence and loyalty among the team which is an essential element in any team. It is the fact that Lovell was able to apply and maintain these characteristics over a sixday period which served as a chaotic, emotional and physical rollercoaster that makes it such a great example of leadership.

***Gene Kranz: Flight Director.***

It is unquestionable that Gene holds the pivotal position of the man in charge of the operation. His signature line “Failure is not an option” demonstrates to everyone exactly what he expects out of them. It is albeit assumed that he will take full responsibility of any consequences suffered as a result of decisions he has made, even though throughout the mission he fails to make one decision which is based on his own personal knowledge.

This is where Kranz expertly uses the leadership quality of trust to determine decisions. He places trust in his colleagues throughout the film, such as when he sends a team to construct a Co2 extraction device and does not continuously check up on them. Kranz bases his decision on the opinion of the experts which surround him, such as when he decides the best possible way to “Get our guys back” is by using the free return orbit of the moon rather than turning the space craft directly around, a decision which is extremely controversial in public eyes, however he has trust in his colleagues.

***Fred Haise: Astronaut.***

Haise is a true team member, throughout the mission he is dependable, works hard and holds excellent communication lines with both his crew and the team in headquarters. Although he held less of a leadership role than his commander Lovell, he was a crucial link in the chain and his input was irreplaceable. He showed the great leadership skill of adaptability when it was required as he found himself dealing with new situations.

***Ken Mattingly: Astronaut at Headquarters.***

Without question it is the leadership qualities of problem solving and adaptability that Ken Mattingly held in spades. After suffering the devastation of being refused permission to fly on Apollo 13 due to a chance he may get measles (which he never did), Ken re-joined the team without any ill-feelings to do whatever he could to get the crew home safe. It was his expertise and sheer hard work in the simulator that allowed the team to put together a step by step process to land the Apollo 13 spacecraft. Ken was faced with the task of balancing trade-offs in an effort to reserve amps. He was able to adapt to a new situation by putting new methods in place and solve the problem at hand, as well as meticulously communicating the process to Lovell so that he could land the spacecraft.

***Jack Swiggert: Astronaut.***

Jack Swiggert entered the Apollo 13 mission under severe pressure as he was called in from stand-by just a few days before the launch. He showed tremendous leadership qualities as he did not let the pressure faze him, he stood up to the mark whenever it was asked of him. A great example of this can be seen at the end of the film when commander Lovell places the onus of responsibility on him to land the spacecraft, a life or death situation, and Jack succeeds in the task brilliantly.

Management of Essential Areas throughout the Mission

***Team Working:***

It was clear from the offset of Apollo 13 that all members involved worked as part of the team, for each other, with the aim of reaching a shared goal. I believe they strategy they use is similar to the PMBOK strategy I have learnt in Project Management. The five steps are evident throughout:

1. *Initiating – the team holds a combined goal of launching a spacecraft into orbit and to land the spacecraft on the moon. Steps were taken to assess this mission before the planning process such as assessing previous missions and holding interviews with astronauts from previous missions.*
2. *Planning – the planning stage is arguably the most important stage of the process. The months of planning put in were clear to see in the Apollo film. This involved the construction of the spacecraft, the training of the astronauts, training back-up astronauts in the event they were needed which happened in Apollo 13, planning potential events that may happen during the mission as well as many other factors. Planning was also seen throughout the mission itself as the team had to come up with solutions for problems which had not been anticipated.*
3. *Executing – the execution of the mission is where the mission’s failure came, as they did not get to land on the moon. The cause of this may have been a result of an over-looked aspect in the planning stage. However the astronauts executed the procedure given to them to resolve the problem in a brilliant manner which allowed them to make it home to earth safe.*
4. *Monitoring and Controlling – throughout the execution of the mission there was a huge team at headquarters in NASA monitoring every single piece of detail of the spacecraft and the astronauts. In my opinion it was this step that was most important to the crisis. The team were able to monitor any deviations and problems which came about and put controlling measures in place before it became too late for the crew. This was a vital step as it meant there was less stress on the crew as they knew they had experts working on their behalf constantly.*
5. *Closing – the closing stage was the climax of the Apollo 13 mission. Ken Mattingly had worked with the team to design a step by step process which would allow the crew to land the spacecraft with the fuel they had remaining, “a successful failure”.*

***Problem Solving:***

There is one specific scene which stood out to me that sums up the essential area of problem solving to the highest order. The team come to a detrimental realisation that the crew on board of Apollo 13 will be exposed to excessive carbon dioxide emissions which will poison them if not dealt with immediately. This is when the irreplaceable Kranz steps in yet again with a stroke of genius “I suggest you gentlemen come up with a new way to fit a square peg into a round hole, rapidly”. Faced with an unenvied task and equipped with little resources, the team worked together by bringing the most suited experts to the table to solve the problem. It is their drive and determination to “come through” for the team and the crew that enabled them to deal with any situation which came there way.

***Crisis Management:***

Gene Kranz is the key individual in this field in ensuring that that the team stays on track and clear about the task at hand. Without his involvement in the mission the outcome may well have been a different story altogether. Jim Lovell reports to headquarters from three hundred and twenty thousand kilometres above the earth, “Houston, we have a problem”. An explosion had occurred on the side of the crew’s aircraft and it was at this moment that Kranz steps in to regain order. Hundreds of ground staff were on the brink of chaos when Kranz shows his leadership aura, gains everyone’s attention and sets the tone, “Let’s stay cool people”. A simple statement maybe, but it was at this moment that the entire team was looking at Kranz for his reaction, a reaction which would spread through the entire team like wildfire, and it was this brilliance of “keeping cool” and bringing in the required expertise needed that allowed the team to solve the crisis.

***Risk Management:***

The element of risk in the Apollo 13 project was enormous due to the uniqueness of it. The type of risks of managing the project vary, however the management of the unknown, anticipating uncertainties and managing contingency plans were major factors in this operation. Throughout the mission the decision maker found himself operating under conditions of uncertainty. Life threatening decisions had to be made throughout such as when the fuels valves for pumps one and two had to be turned off in an effort to save remaining fuel. In this situation the experts had to assume the probability of each alternative option.

***Conflict Management:***

The most dramatic conflict and potentially the most disastrous was a conflict between astronauts Fred Haise and Jack Swiggert. It was a momentary lapse of control on the part of Haise as he verbally attacked Swiggert, questioning his capability and previous decisions. However this was managed very well by Commander Lovell as he stepped in and regained calm in the situation so that all three crew members could regain focus on the task at hand.

Reflection and Recommendations for Project Managers

It is true that the Apollo 13 mission is a great example for people in business across the globe as there is a lot to be learnt from the mission. It would be a difficult task to think of a better project manager for the mission than Gene Kranz. Throughout the mission he demonstrates key attributes that are an essential factor of project management.

I would recommend that project managers study how Kranz successively deals with any obstacles that he is faced with. The important point to note here is how Gene stays calm and collected when it would be easy to panic/over-react. This will allow the project manager to critically assess the situation and get a full over view as to what needs to be done. In the case of crisis management in which the Apllo 13 mission dealt with fantastically, the project manager can then prioritise the tasks and delegate the workload.

Project managers can learn new practices to put in place. After studying Apollo 13 I have learnt that the project manager needs to take a key leadership role which in turn will reflect off their fellow team members.

Conclusion – Personal Learning’s

All in all I felt that I have gained a greater understanding of Project Management by studying the Apollo 13 mission. It has been a great learning experience which allowed me to study a mission which epitomises project management and relate this to our own team assignment in project management, “Bike-About”. The team in Apollo 13 were resilient, they never lost focus on the task at hand, and they were determined to pull through to save Lovell, Swiggert and Haise. “Failure is not an option”. The leadership skills shown by the three astronauts combined with the expertise and team work of the team at headquarters resulted in the men returning to earth safely. When Jim Lovell spoke the famous words from outer space “Houston, we have a problem”, the team worked together to solve it. The worked smartly and efficiently which was essential in a battle against time. “Let’s work the problem”, Gene emphasised to forget about the past, would haves and should haves, and to stay focused on solving the problem at hand. I believe this was a good lesson to learn as it is easy to become side-tracked in a panic stricken situation, but the key point to remember is to focus on what you are trying to achieve and stick with it, eliminating any scope creep.

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