

# STAR TREK: BETWEEN SCIENTIFIC TECHNOLOGY AND REALITY, A LEADERSHIP MODEL IN HEALTHCARE MANAGEMENT

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## ABSTRACT

Few tv series or movies can be considered as a source of inspiration for everyday life, both in the workplace and not. Star Trek is the most striking example of this since it touches the deepest chords of the human soul by addressing philosophical, spiritual, political and strategic issues. At the command of the Enterprise, the spaceship, we meet Kirk or Picard, to name a few of the most famous commanders of Star Trek, at the "command" of radiology we will meet the Coordinator, a leading figure for his team of technicians. Far from space ships or aliens, the TSRM Coordinator must interface with his technical staff, know how to communicate with them and with other health workers and make important decisions often in "red alert" conditions as unfortunately still happens during the COVID-19. The world is experiencing a time of crisis as the global COVID-19 pandemic has affected the way we live, work and interact with each other on a global scale. It might be science fiction, but Star Trek can help us practice our basic leadership skills in preparation for real crises. In fact, the Star Trek captains provide examples of the potential for communication, patience and dedication in the service of leadership. With this job I tried to describe how team-working, the importance of communication and the figure of the leader in Star Trek can be an inspiration in the Management for the health professions and how the technology of this famous science fiction serie can predict and anticipate the future of our technical profession.

## INTRODUCTION

In an emergency situation such as that of Covid-19 which upset the managerial and psychological aspects of us colleagues all our certainties collapsed, the stress increased, there was nervousness and fear of getting infected and infect our loved ones. In this "red alert" scenario, the only one who can keep the group cohesive is the figure of the TSRM Coordinator, the leader of the working group of our radiology. So many times I have seen the same scenarios in the Star Trek series, I have wondered what would an Enterprise commander do in these circumstances? Below I will illustrate how Star Trek has influenced my management and organizational vision of the healthcare environment and how the various captains on the Enterprise can teach us to be good leaders.

## MATERIALS AND METHOD

**"Shaka, when the walls fell": the importance of communication for achieving goals**

Communication regard all the signs and messages, verbal and otherwise, which are used to transfer information to others, but also emotions and feelings. However, only 7% of the meaning is conveyed by the spoken words, while 38% is communicated through the tonality in which they are expressed and the remaining 55% regards physiology, gaze, posture, clothing or perfume, that put together form aspects that "speak" for us. The words we hear or speak leave a trace in our psyche, condition us and have the power to make us feel good or to create discomfort and influence our relationships and self-confidence by virtue of the possibility of achieving our goals. It is worth mentioning the second episode entitled "Darmok" of the fifth season of Star Trek: The Next Generation

in which Captain Picard is faced with an alien race whom not even the very powerful universal translator of the spaceship can communicate to. He says "Communication is a matter of patience and imagination" so when Darmok, the alien, hands him the dagger and says a few sentences with no apparent logical sense, the good captain instead of going on the attack and being frightened by the unknown or by what he does not understand patiently tries to understand what is the common denominator of all those apparently disconnected phrases, until he deduces, at the end of the episode, that the alien is talking to him through allegorical figures taken from the mythology of his race: Darmok therefore passes from pronouncing phrases such as "Shaka, when the walls fell" that means inability to understand and be understood to "Sokath, his eyes no longer covered!", finally, the understanding of the message: the alien realizes that Captain Picard understands his language, his eyes are no longer "covered". One of the key skills for any good leader is the ability to empathize and understand the people they work with, both within their team and outside. People bring to the table not only their skills, but also their experiences, personalities and cultures. Understanding those cultures and experiences allows us to communicate effectively.

**Facing the battle against Covid-19: Acting, motivating and preparing the team for the most difficult challenges**

What would Captain Kirk be without Commander Spock's cold rationality or the "emotional grouch" Dr. McCoy? What would Captain Picard have done without the android Data or first officer Riker in Star Trek: The next generation? Starfleet's best captains



Tab. 1

surround themselves with advisors and crew members from all backgrounds, embrace diversity and encourage difference of opinion. Disagreement, and diversity on the bridge lead to some of Star Trek's most groundbreaking moments: It's an inspiration to all of us in healthcare management and management. One of Captain Kirk's recurring enemies in Star Trek were the Romulans, a highly intelligent and warmongering society that has ruthlessly destroyed its enemies. In many episodes, the Captain could have chosen the simpler option: waiting for someone else to fix the problem or yielding to the Romulans' demands, instead, the Captain always chose to act, realizing that his action would ultimately motivate the his crew to do the same in the face of fear. Similarly, when we are faced with the "Romulans" of life, such as Covid-19 can be, we must choose to face - rather than avoid or give up - the challenge. Pretending the challenge doesn't exist or ignoring it until things "get back to normal" is actually a form of surrender. Facing a great challenge, such as Covid-19, even the best team can fall apart. Likewise, after Worf lost his honor to prevent the Klingon Empire from entering the war, Picard still insisted that Worf look after the Klingons who had arrived on the Enterprise, even if it would cause much anguish and shame for Worf since he's been dishonored. Thanks to this Worf emerged from the end of his period of dishonor as a much stronger Klingon. In other words, Picard helped Worf become a stronger and more capable man. This teaches us that when someone on our team does their job and does it well, it can be difficult to assign new or more difficult tasks to them. But to be an effective leader, you need to shake up your team members, so that when our team faces more difficult crises, it will be more resilient and effective, it will remember what past experiences have taught it.

***"To boldly go where no man has gone before"***  
*"Space: the final frontier. These are the voyages of the starship Enterprise. Its five-year mission: to explore*

*strange new worlds. To seek out new life and new civilizations. To boldly go where no man has gone before"*

This is the opening theme of each episode of Star Trek. A TV series that makes space and cultural exploration its central pivot; in the universe of Gene Rodenberry, the surest path for human evolution is the cultural one. Like the Borg(1) we are committed to perfecting ourselves. As humans we use tools, we have complex language, we have a frontal cortex that allows us to imagine our future and remember the past and an insatiable desire to explore. Once we have explored or discovered something new, we feel an equally insatiable desire to communicate it to other human beings: we teach. We have the opportunity to improve ourselves, to become wiser, more cultured, more compassionate and tolerant: in short, "more human"(2). In this perspective of improvement, professional updating is inserted as a tool for deepening and increasing knowledge and professional skills. Covid-19 deprived us of face-to-face training courses, an opportunity to be in the company of colleagues from different working realities and confront with each other. Fortunately, there is distance learning, the so-called FAD courses that give you the opportunity to upgrade by following courses with ECM credits recognized after taking a knowledge learning test and a course evaluation test. The FAD mode exploits the concept of e-learning or training courses through relational, interaction, multimedia and interactivity activities, with the aim of being able to create an educational path mediated by technology. The world of e-learning includes a vast assortment of distance learning tools (FAD): LMS platforms, webinars, tools for online assessment, management tools for training, tools for socializing and exchanging information between teachers / students and students / students, mobile and micro-e-learning. Our TSRM coordinator encouraged us to continue to update ourselves and not to settle on the stalemate due to Covid, often offering us FAD courses related to our profession.

### ***Medicine on board: the future of diagnostics is in the Tricorder***

On The Enterprise we can find the crew but also the civilians and their children: it can happen that you have health problems or that you have been wounded during exploratory missions. The importance of the presence of the ship's doctor is represented by the fact that, together with the councilor, he's the only one person who can dismiss the Captain if he is in bad physical and mental condition and capacity in command. In addition to doing clinical work, the doctors must also be up-to-date on the latest medical findings and treatments, supervise the ship's life support systems, direct biological research equipment, and serve as exobiological leaders on exploration teams. Also part of their daily work is the preparation of new vaccines or the development of medical treatments for aliens with mysterious physiology. They have very advanced tools: the tricorder is one of these and would be the most envied tool by contemporary doctors. It is nothing more than a small instrument that fits in the palm of a hand and can diagnose diseases simply by passing it on the patient's body, as if it was a scanner: it remembers the current diagnostic imaging techniques such as CT or MRI, except that it can be carried in a pocket(3). Who can say if one day the current and bulky radiological investigation methods will be replaced by such small and pocket-sized equipment? Just think of the beds with continuous reading of patient parameters that we can find in the Star Trek infirmary and those of any intensive care unit. What differentiates them from each other is the use of wires, unfortunately still present in modern intensive care units even if the connections are becoming increasingly simple: is it simple science fiction or are we approaching the "wireless" technology of Star Trek? The Enterprise has often had to fight against viruses and pathogens of unknown origin. What the ship's doctor did first was isolate the patient and study the pathogen. In the Covid era where unfortunately patients must be kept in isolation it is important to avoid spreading the contagion and the circulation of viral particles for this reason we use the depressurized chambers in such a way that the viral particles do not escape from the room, the depressurized chambers used in Star Trek when there are epidemics on board.

### ■ CONCLUSION

Our profession is linked to machines, to technology and this progresses and we must progress with it. The machines I worked with during my university studies are already obsolete, discoveries are advancing and we must be prepared to welcome progress. The Star Trek Captains are model of how a good leader must approach to his team, communicate with it and be a model for his crew. Star Trek teaches us to ask ourself questions, all the time, and that finding the answers can be a very long but not impossible journey. Whenever we meet a patient to whom we will have to undergo an examination, like any self-respecting Captain, he must be welcomed in the best possible way since often the outcome of that examination can affect a therapy, a prognosis or simply the patient's mood. Sometimes finding someone who welcomes us simply with a smile and has a short conversation even just to comfort us can make us face the exam and the waiting for the outcome in a different way. Star Trek teaches us to consider the human side in a system that sees the patient as another "number to be served", a "customer" of a healthcare company. We, as x-ray technicians, work with the machines, they change as the technology progresses, who can say if the tricorder used in Star Trek by the doctors will be used in the future to scan human body? Who can tell if the wireless vital signs self-reading beds in Star Trek's infirmary won't populate resuscitation or wards? Is it just science fiction or did Star Trek somehow predict the future?

(1) *"The Borg are humanoid beings who include in their anatomy technological components that make them cybernetic by increasing their physical and mental abilities. They have used these new technologies to acquire the biological peculiarities of different species, cultures, races and worlds, in such a way to be constantly improved, in the utopian aim of becoming the "perfect species"* [https://it.wikipedia.org/wiki/Borg\\_\(Star\\_Trek\)](https://it.wikipedia.org/wiki/Borg_(Star_Trek))

(2) Cf. Susan JENKINS - Robert JENKINS, *Signs of life, the biology of Star Trek*, Milan, Longanesi, 1999, pages 52-56

(3) Cf. Susan JENKINS - Robert JENKINS, *Signs of life, the biology of Star Trek*, Milan, Longanesi, 1999, pages 52-56

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