

Two Worst to First Stories and What Should Leaders Learn from Them^{1, 2}

William “RED” Davidson

From time to time, we hear of a story of an organization that transforms from the worst in their field to the best. These stories provide leadership with insights that can help them design a workplace where their organizations become highly successful. This article reviews to different worst to first stories:

- New United Motor Manufacturing Inc. or NUMMI
- USS Santa Fe under the command of Captain L. David Marquet

New United Motor Manufacturing Inc.

Our first story starts at the General Motors Fremont assembly plant. The Fremont plant opened in 1962 to replace the Oakland assembly plant some short distance away. It would produce more than one thousand cars and trucks per day for the Chevrolet, Pontiac, Buick, Oldsmobile, and GMC brands. Over time, this assembly plant would gain the reputation as being the worst plant in the GM system. The workforce was considered the most difficult in the automobile industry. There were tales of sabotage, such as placing Coke bottles or loose bolts in door panels of vehicles. Wildcat strikes were not uncommon. As a result, both General Motors and the UAW gave up on this plant; it was closed March 1, 1982.

In the early 1980s, Toyota did not have an assembly plant in North America. They started looking for a partner who would entertain a joint venture. Toyota wanted to learn the nuances of building cars in North American given the local suppliers as well as working with a unionized workforce under the UAW. The Ford Motor Company passed, while General Motors accepted the offer. GM wanted the learn how Toyota produced high quality small cars at a profit.

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In February 1983, Toyota and General Motors signed an agreement to produce small cars at the former Fremont assembly plant. Cars would be produced under a 50/50 joint venture between General Motors and Toyota, the venture would be named the New United Motor Manufacturing Inc. or NUMMI. NUMMI was officially recognized as an independent corporation in February 1984. By June, the first group of NUMMI trainees arrived in Japan at a Toyota assembly plant.

Toyota would install their production and management systems at NUMMI while General Motors would market the plants main products, the Chevrolet Nova and later the Geo Prizm. Production started in December 1984. Within two years NUMMI was rated the best plant in terms of quality and productivity in the General Motors system.

Some of the key metrics:

- Productivity at NUMMI: 36.4% less hours per unit compared to a comparable GM Plant. GM-Fremont would take 57.5% more hours per unit compared to the same comparable GM plant.
- Quality: JD Power and Associates data indicated that cars produced at NUMMI were significantly better than the average car, 117 problems per 100 units at NUMMI vs. 151 for all cars produced.
- Absenteeism was significantly reduced, from 20%-25% under GM-Fremont to 3%-4% under NUMMI.
- Union grievances also significantly improved, from 700+ at the time the GM-Fremont plant closure to roughly 30, with only three grievances going to arbitration.

With these productivity, quality, and workforce relationship improvements, one might assume an entirely new workforce was hired to fill all positions. On the contrary, 85% of NUMMI's workforce were former GM Fremont UAW workers -- including all the union hierarchy. It should be noted that none of the former managers from GM Fremont were rehired for NUMMI.

USS Santa Fe under the command of Captain L. David Marquet

The second worst to first story involves the US Navy nuclear fast attack submarine USS Santa Fe (SSN-763) and their new captain L. David Marquet.

Captain Marquet graduated at the top of his class from the Naval Academy. He joined the submarine service and was eventually selected captain of the USS Olympia (SSN-717). Captain Marquet trained for over a year learning all the various systems that made up the Olympia. He was looking forward to his first deployment as captain. However, when the captain of the USS Santa Fe quit unexpectedly, Captain Marquet was reassigned to the Santa Fe.

The USS Santa Fe did not have the best reputation in the Navy. It was known as the “Enron of the Navy.” The crew’s performance was particularly poor and morale was very low. Captain Marquet had only two weeks to prepare for his new assignment as captain of the Santa Fe. It should be noted that the Olympia and the Santa Fe, while having similar missions, are completely different boats with different systems.

About a year after he took command, the Santa Fe began achieving the highest operational marks from Navy inspectors. More importantly, crew morale improved significantly as reflected in the increased retention rates, from 10% prior to his arrival to 100% of all eligible officers and enlisted men. The Santa Fe would go on to win several awards over the next 15 years.

Why the Improvement?

At NUMMI, roughly the same workforce produced higher quality cars with greater efficiency than any other plant in the GM system. On the Santa Fe, roughly the same sailors using the same battle tactics achieve the highest operational scores ever seen in the US Navy. How is this possible?

In both cases, the people were acting within a system that had changed remarkably. The old systems prevented people from doing their best work. Once under the new systems, the same people excelled at their jobs and allow the organizations to better achieve their missions.

Sir Edward Deming has written that when it comes to productivity and production issues, 85% of the fault lies with the systems, processes, structures, and practices in an organization and only 15% is down to the operator’s skill **and it is the responsibility of management to fix this.**

Toyota’s Management and Production Systems at NUMMI

The Principles of Scientific Management (1911) by Frederick Winslow Taylor, was voted the most influential management book of the twentieth century. Taylor and his contemporaries made a very strong distinction between management and workers; managers did all the thinking, workers only do the work. But also note the language used in the following quote (emphasis added):

*through **enforced** standardization of methods, **enforced adoption** of the best implements and working conditions, and **enforced cooperation** that this faster work can be assured. And the duty of **enforcing** the adoption of standards and **enforcing** this cooperation rests with management alone.”*

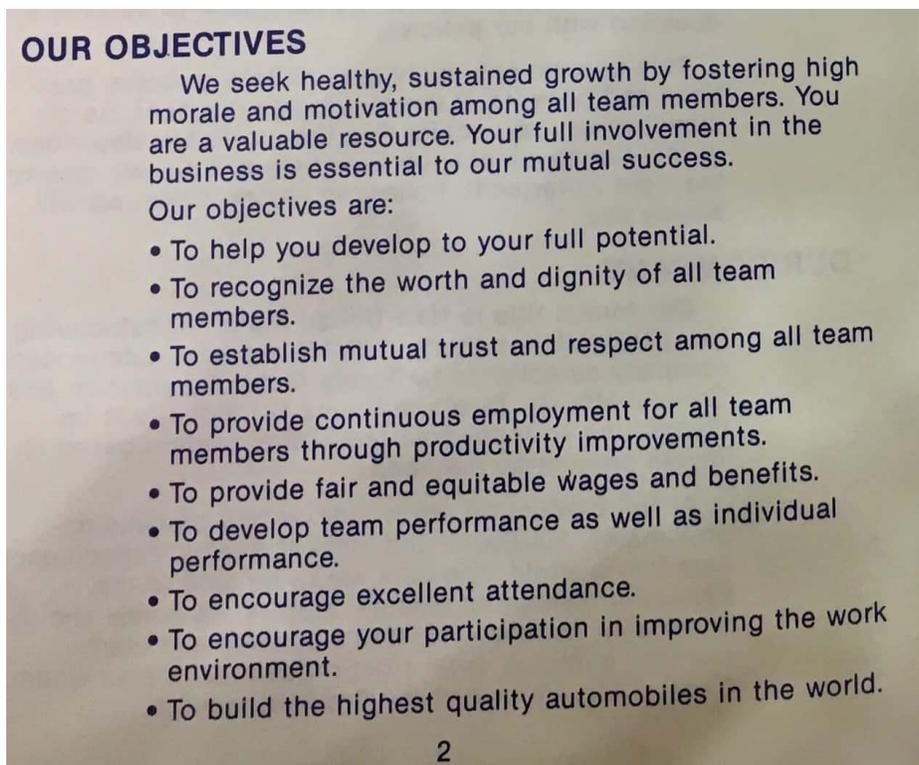
Similarly, the US Military defines leadership as follows:

Leadership can be defined as directing the thoughts, plans, and actions of others so as to obtain their command and obedience, their confidence, their respect, and their cooperation.

In both cases, the captain or organizational leader is the only individual thought to have what it takes to make decisions. All others were simply extensions of their will.

In stark contrast, Toyota under the influence of Taiichi Ohno created systems that were people centric. Ohno-san recognized that every worker had to be involved in the production process to produce a high-quality product with as little waste as possible.

Under the Toyota Way, Respect for People is one of its two pillars. This respect for people was codified onto page 2 of the NUMMI employee handbook, pictured below:



Note that only in the final bullet does the product appear for the first time. All the other bullet points speak to how people should be treated, how people should grow and what the company should expect from people in return.

This respect for people was also highlighted in a quote from Kan Higashi, NUMMI President and Chief Executive Officer:

Being out of work for two years certainly was a factor in changing the attitudes of a lot of workers. But at the same time, I think our philosophy helped change their attitudes – we treated our employees as human beings. Some workers have told me that in other plants they used to be called by their numbers. To quote a worker: “The interesting thing about [NUMMI] is that they never stop making you feel important”

Respect for people is also highlighted in standardized work, an element of the Toyota Production System and the Andon Cord, a communications tool used on the production line.

Standardized work is documenting the job’s tasks and sequences that are to be performed. Once the baseline has been established, the workers are encouraged to improve the standardized work through kaizen, the incremental process improvement process. Workers do not need approvals to change their work processes; however, they are expected to coordinate with (and gain agreement of) all members of their team as well as the team members of other shifts.

The Andon Cord is a communications mechanism that allows workers on the line to “speak up” when they see a problem with either product quality or safety. Once the line is pulled, a team leader will come over and inquire as to what is the concern. The team leader will then take to specific actions:

1. Fix the immediate problem or concern.
2. Start a root cause analysis so that the problem can be prevented upstream.

Contrary to widely held belief, the line does not stop immediately but rather at specific zones and only if the problem has not been resolved.

When General Motors managers were told of the Andon Cord, they were concerned that giving workers the power to stop the production line would lead to disruptions. They assumed the workers would pull the cord because management perceived the workers as lazy.

Toyota’s viewpoint is the complete opposite. Their belief is workers are given the responsibility to stop the line should there be a product quality or safety issue. This shows workers a great deal of respect. The workers feel trusted and empowered to take part in the production of a quality product. Likewise, management benefits from the knowledge and judgment of the workers.

The Santa Fe

On board the USS Santa Fe, Captain Marquet discovered the crew was pretty beaten up and pacified. They had been conditioned to follow all commands, even when those commands did not make sense.

During a training exercise, Captain Marquet issued an order that could not be fulfilled. The Santa Fe was a newer submarine that did not have the capability of running the electric propulsion motor in “second gear”. When the captain asked the executive officer (XO) why he passed the order on to the helmsman, the XO responded, “you ordered me to.”

This was a lightbulb moment for Captain Marquet. He found himself among a crew that was looking for him to have all the answers and therefore make all the decisions. Captain Marquet reasoned that this would be highly constraining since he would be the only person thinking. What he needed to do was to get all 135 members of the crew thinking and speaking up.

Through a series of conversations and experiments, he adopted an enabling leadership style which he refers to as the Leader-Leader approach. Leaders are nurtured at all levels. Each person is expected to become competent at their position on the boat and speak up as warranted to accomplish the mission. Captain Marquet would provide commanders intent and then allow his crew to fulfill that intent using their judgment and experience.

Ultimately, Captain Marquet saw his mission as: Create the environment for people to be their best exactly the way they are.

To start the process of creating a Leader-Leader environment, Captain Marquet had to adopt a new stance: to **stop** giving orders. Instead, he would teach his crew to state “this is what I intend to do.” He would either agree or counteroffer. This began to create an environment where everyone felt empowered to make decisions that were in alignment with their mission.

Overtime and in consultation with Stephen Covey, Captain Marquet would codify a language that he called the Ladder of Leadership.



Making It Safe

Moving from an environment where the captain gives all the orders, and everybody is expected to follow those orders to an environment where the captain gives commander's intent and expects everyone to know their job can generate a great deal of fear and anxiety. Captain Marquet's next challenge was to make it safe for his crew to adopt to the Leader-Leader approach.

When a crew member approach Captain Marquet with an "I intend to," he would ask questions to understand their thinking and to assess whether they had considered all the possibilities. The language he used was crafted to draw out information without introducing fear. Captain Marquet would start the question with "how," such as "how have we ensured this is safe."

Google conducted a study, named Project Aristotle, to try and understand what makes one team more effective than another. The hypothesis was that it had something to do with either personality types, intelligence, or intuition – all personal traits. At the conclusion of the study, the hypothesis was disproven. Rather, they discovered five extrinsic characteristics that

distinguish highly effective teams from their peers. They found that teams with psychological safety, which is when the team members feel safe to take risks or be vulnerable in front of others, were most likely to be considered highly effective.

Similarly, one of the four guiding principles of Modern Agile is “Make Safety a Prerequisite.” Discipline Agile, now part of PMI, codifies a list of agile team responsibilities and rights. The second right is to “Work in a safe environment.”

The data is clear, for people to truly excel at their job, they need to feel that it is safe to take risks, to challenge the status quo, to try new things, to communicate bad news, etc. Organizations with a great deal of fear constrain themselves as they will rarely get a person’s best effort or full engagement.

Tuning Empowerment to a Team’s Capability

When Captain Marquet relinquished control, he quickly recognized that doing so with no guard rails would rapidly lead to disaster. Captain Marquet would realize that the Leader-Leader approach required the following:

1. Leaders must relinquish control while retaining responsibility
2. People must be equipped with a technical knowledge and resources to make sound decisions (competence)
3. People must be equipped with clarity on the organization’s goals and purpose and decision-making criteria. (clarity)

When a crew member demonstrated high levels of both competence and clarity, only then would full control be ceded to that crewmember. It became crucial for the captain and his officers to be acutely aware of each sailor’s competence. Training, showing trust and confidence building became a top priority to increase each sailor’s competence. The captain, his officers and chiefs had to clearly articulate the commander’s intent so that everyone was aligned to the mission.

Act Their Way to New Thinking

Many organizational change management methods state you should change people’s minds first and this will lead to a change in people’s behavior. Captain Marquet found the opposite to be true. He found that changing the way people act would eventually lead to changing the way they think.

The crew of the Santa Fe is divided into several subgroups either by rank or by department. When things went wrong, “they” were always the culprit. Captain Marquet, growing frustrated, stated “there’s no more they on the Santa Fe.” He then instructed everyone to say “we” instead of “they.” Within a short period of time, the entire crew began to think their way to being a single team. The quality of teamwork and camaraderie was specifically noted by the Navy inspectors.

Years earlier at NUMMI, John Shook had a similar epiphany. He stated:

What my NUMMI experience taught me that was so powerful was that the way to change culture is not to first change how people think, but instead to start by changing how people behave — what they do. Those of us trying to change our organizations’ culture need to define the things we want to do, the ways we want to behave and want each other to behave, to provide training and then to do what is necessary to reinforce those behaviors. The culture will change as a result.

A Negative Example

If leadership can propel an organization from worst to first, leadership can also cripple and damage an organization. In recent years there have been many examples, including:

- Arthur Andersen/Enron accounting scandal
- Boeing and the 737 MAX
- Volkswagen and Dieselgate
- Wells Fargo fake account scandal

In the report issued by the “Independent Directors of the Board of Wells Fargo and Company,” the blame for the fake account scandal was laid at the feet of two executives. These leaders created ambitious sales goals and fostered a system where those who achieve their sales targets were rewarded while those who missed their targets were punished or terminated. Reports of internal wrongdoing were ignored.

This pressure led to 3.5 million fraudulent accounts being opened without customers’ knowledge or consent. Regulators got involved as many lawsuits were filed. Over a number of years, Wells Fargo was assessed billions of dollars in fines. As of this writing, Wells Fargo is restricted from growing its balance sheet (asset cap) due to their inability to demonstrate adequate controls in their operations.

What Should We Take from These Stories?

As leaders in the organization, we must recognize Deming's 85/15 rule truly applies. When there are problems, 85% of the time, it is the system that management created that is the cause of the problem, not the skill or motivation of the workers. It is management's responsibility to fix those issues so that each worker can fully contribute to the work. (Also, see Deming thoughts on fear in the organization and annual performance appraisals.)

When the GM-Fremont workers began building cars under the Toyota Management System (which specifies in part respect for people) and the Toyota Production System (which specifies in part standardized work and Kaizen), they produced more cars per hour with higher quality than any other GM plant. When the officers and crew of the USS Santa Fe went on deployment after adopting the Leader-Leader approach, they achieved the highest operational scores in U.S. Naval history and a 100% retention rate.

Returning to the findings of Google's Project Aristotle, it is hard to argue with their conclusions. Each team member should work on something that has a positive impact to someone else, has personal meaning, their goals, roles, and responsibilities are crystal clear, where there is dependability (certainty), and psychological safety is found in abundance on the team and in the workplace.

In leadership, it is our responsibility to create the environment where the only conceivable outcome is for great things to happen. Many leaders do not do the work of the organization. The people on the front lines of the organization providing products and services to customers should be treated as rock stars. As leaders, we should only be considered successful when our teams are successful.

About the Author



William “Red” Davidson

Texas, USA



William Davidson, known to many as Red, is an Agile Coach from Plano, Texas. He’s coached at large enterprises including Frontier Communication, Citigroup, Toyota and Chase. He’s been writing software for money since 1983 (whoa, that’s a long time). He’s held many positions (Development Manager, Project/Program Manager, PMO Lead and Scrum Master), receiving awards (Business Development Quality Award for Excellence), written papers & articles, and presented at more than 100 conferences and user group meetings. As an Agile Coach, Red helps teams (and their organizations) achieve the benefits of Agile software delivery. He can be contacted at [reddavidson@yahoo.com](mailto:red davidson@yahoo.com) or www.linkedin.com/in/reddavidson