Managing Projects as though People Mattered: Using Soft Skills and Project Management Tools for Successful Enterprise Transformation

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ABSTRACT

Project management has emerged as the de facto method of controlling the scope, cost, and schedule of public sector acquisitions, systems and software development programs and projects, and large-scale enterprise transformations. Over the last 50 years, the world has seen the rise of project management professional societies, guidelines, journals, research, training, education, and a large body of certified people to ensure the successful outcomes of today's complex projects. In spite of five decade long multi-billion dollar investments in training, education, and certification of millions of project managers, global projects continue to be challenged or even fail at astonishing rates even when sound project management is used. This case study examines of the use of contemporary soft leadership principles, such as personal interactions, conversations, consensus, collaboration, exploration, evolution, emergence, openness, continuous improvement, relationships, trust, and customer satisfaction. In particular, it describes how these soft-skills were used to delicately guide and shepherd an enterprise transformation initiative to successful completion within its scope, time, and cost constraints. The results illustrate project success may hinge upon softer people skills, intuition, and highly-personalized care and services. Today's leaders, executives, managers, and even operational personnel need to understand that complex projects and systems are a synergistic confluence or triad of people (human behavior), process (economics), and technologies (physics) versus the so-called "iron-triangle" of scope, time, and cost. Furthermore, the triad isn't evenly distributed and psychology, sociology, and other human behavior may be the key to 21st century project success.

INTRODUCTION

Project management has a long and rich history stretching back thousands of years. Large public works of historical significance were only possible using project management techniques. It doesn't take much imagination to recall some of the great project achievements of humankind. These are often known as the wonders of the ancient world. Some of them include the Tower of Babel, Great Pyramids, Roman Aqueducts, Great Wall of China, Nazca Lines, or perhaps even Noah's Ark or Solomon's Temple. More recent examples include the Taj Majal, Panama Canal, Hoover Dam, Golden Gate Bridge, Empire State Building, Eiffel Tower, and Suez Canal. The great engineering feats of World War II were also remarkable, including aircraft carriers, long range bomber aircraft, submarines, radar, V-2 rockets, jet engines, and atomic bomb. Aerospace projects included Mercury, Gemini, Apollo, Skylab, Voyager, Space Shuttle, Hubble, Space Station, Opportunity, Curiosity, etc. The Hadron Collider, Chunnel, Dubai Tower, Akashi Kaikyo Bridge, and Syncrude Tailings Dam are modern wonders. How about large information technology projects such as the Internet, Facebook, Amazon, Ebay, iTunes, Microsoft Windows, Linux, etc? Even large multi-million member organizations qualify as projects, such as the U.S DoD, China's People's Liberation Army, China Railway Corp., Wal-Mart, McDonald's, etc.

What do all of these projects have in common? First, they required enormous resources to construct in terms of money, time, and manpower, i.e., billions of dollars, decades or centuries, or thousands of workers. What else do they have in common? Well, they required visionary leaders, careful planning, meticulous designs, careful project execution and control, and extremely high technical performance. Their functional and performance requirements were orders and magnitude beyond anything imaginable in the past, present, and future. Their structures reached to unprecedented heights that could be seen for miles or even from space.

They consumed enormous volumes of materials that boggled the imagination. They held large volumes of resources such as people or water, they traveled at enormous speeds and distances, they required multi-generational budgets, and they caused enormous damage to their victims. 20th century projects necessitated new tools, which include program evaluation review technique (1956), critical path method (1957), work breakdown structure (1962), cost/schedule control systems criteria (1967), theory of constraints (1983), earned value management (1989), and critical chain project management (1997). Many organizations were formed including the International Project Management Association (1965), Project Management Institute (1969), Association of Project Management (1972), and American Academy of Project Management (1996). The crowning achievement of project management included the Project Management Body of Knowledge (PMBoK) in 1986 and its 10 major pillars (i.e., project integration, scope, time, cost, quality, human resources, communications, risk, procurement, and stakeholder management). Today, millions of project managers are certified to the PMBoK.

But, what is the point of all of this formality, structure, ceremony, professionalization, certification, and exactitude? The basic theory is a project's scope can be discerned, documented, translated into written plan, and controlled within a 5% or 10% margin of error. For example, let's say one wants to build the world's tallest skyscraper. Then, the scope would include requirements discovery, conceptual modeling, and estimation of resources such as people, materials, capital, land, equipment, tools, and time. These boundaries are then translated into a work breakdown structure or hierarchy of deliverables and activities, and a detailed schedule measured in years and decades, which is tracked using cost and schedule measures. The latter is known as earned value management, which assumes frequent measurement of a project's resource utilization rate should be made to ensure they are not consumed too quickly or slowly.

Expending resources at a planned rate is believed to enable completion of the skyscraper at a preplanned date. There are three major assumptions upon which this paradigm is based. First, this is the way that humankind consumed vast quantities of resources, constructed enormously complex structures, and created the timeless wonders of the ancient world. The second is that 100% of a project's scope is knowable, definable in a project plan, and can be reduced to simple arithmetic to achieve scope, time, and cost constraints. The third is that the 10 pillars of project management are the critical success factors behind complex 21st century projects and systems.

The mathematical tenets of project management appeal to left-brained, analytical scientists, mathematicians, and engineers. However, project managers have always admitted that soft-tools are just as important to hard ones. These include people skills, motivation, trust, communications, relationships, instinct, intuition, camaraderie, morale, dignity, and respect for one another. We have to credit the early organizational sociologists, psychologists, and behavioral researchers from 1925 to 1965. They had the audacity, vision, and courage to challenge Scientific Management that reducing tacit knowledge to a simple set of repeatable and measurable processes was not the only key to performance improvement. Scientific Management advocates argued for division of labor, specialization, measurement, and "one-best-way." Early human behavioral researchers argued that power should be shared with workers, motivation could be optimized through empowerment, and small autonomous work groups should be used. They also argued that decision-making should be decentralized, conflict should be managed, and individuals should master the principles of sociology and psychology to improve organizations. This was a far cry from the Industrial Revolution and Scientific Management Era to enable mass manufacturing, economies of scale, and the treatment of humans as machines or automatons by reducing their work to a set of mathematical routines using statistical process control.

However, the breakthrough came from the systems theorists who discovered complex new products and services are triads of people, processes, and technologies. These elements were not to be treated equally, but that the lion's share of the complexity lay in the people side. That is, the answer to successful projects was not in economic optimization, but in understanding and mastering psychology and sociology, as the early human behavioralists had discovered. These included Mary Parker Follett (1926), Elton Mayo (1933), Abraham Maslow (1943), Kurt Lewin (1951), Ludwig von Bertalanffy (1951), Kenneth Boulding (1956), Douglas McGregor (1957), John French (1959), Frederick Herzberg (1959), Tom Burns (1961), Philip Herbst (1962), etc. These giants formed the basis for human behavior, such as ethics, culture, efficacy, motivation, rewards, decision-making, teamwork, conflict management, communication, power, organization change, and egalitarian leadership. The study of human behavior has and will take place in three periods—theoretical (1920-1960), implementation (1960-2000), and optimization (2000-2040). The third phase is dominated by right-brained thinking, brain science, emotional intelligence, intrinsic motivation, relationships, trust, collaboration, communication, empowerment, delegation, participation, cognitive bias, visual abstraction, and collaboration. These allude to what today's project managers call "soft, people, communication, and personality skills." That is, treating people with respect and dignity may be more important than Scientific Management.

ORGANIZATIONAL THEORY & PROJECT MANAGEMENT

The field of organizational theory has a long a storied history. Almost any management scholar admits that its roots and tenets are founded throughout history in the great societies, cultures, armies, and structures of the ancient world. Jeremiah received a title or deed for a plot of land he purchased replete with highly-legalistic terms and conditions. The Hammurabi Code contained a system of ethics holding builders accountable for the loss of life if their structures collapsed. Span-of-control was used to organize Levitical priests for healing and judging, as well Rome's Legions into a well-defined hierarchy. This was formalized by George Miller of Harvard (1956) in "Miller's Limit," i.e., people cannot recall more than seven plus or minus two numbers. Project teams now contain seven plus or minus two people. Adam Smith pondered the division of labor, specialization, and the competitive advantage of nations. Frederick Taylor created Scientific Management to convert a worker's tacit knowledge into explicit work routines to be measured. He suggested workers could be motivated by "giving them plums." Mary Parker Follett encouraged managers to share decision making-power with ordinary workers and Abraham Maslow pondered the principles of human motivation. It would take another 60 or 70 years to fully decode the secrets of motivation. Late 20th century ideas include international culture and customs, advanced motivation theory, teamwork, self organization, decision making, conflict management, power, politics, egalitarian leadership, organization change, and ethics.

Organizational theory had its detractors and scholars asserted there was no unified theory of management by 1960. Some claimed it included everything from Taylorism forward. Human behavioralists claimed everything from Mary Parker Follett on forward. Scholars yearned to develop a discipline of management science and insisted upon measurability. Early tenets of organizational theory contained little measurement and were not considered a science. Furthermore, many did not consider psychology, sociology, and human behavior a science either, because thoughts and feelings could not be easily measured. Thus, human behavior theory was rejected as well. This quandary of mathematics versus human behavior was a gauntlet, resulting in a theoretical deadlock. Scientific Management was considered inadequate and psychology was not considered a science. 20th century project management was based on Scientific Management with a smattering of human behavior. 21st century versions called for less Scientific

Management and more human behavior. However, this only deepened the divide between proponents of each paradigm. Moreover, 21st century approaches did not have well-developed human behavior theories, exacerbated by the immaturity of organizational behavior. Proponents of Scientific Management fiercely attacked 21st century theories by claiming human behavior was not based upon mathematics and should be rejected outright.

Scientific Management View

Adam Smith (1776) called for centralized factories, division of labor, and specialization to enable mass production and economies of scale during the British Industrial Revolution. Frederick Taylor (1911) created the megatrend known as Scientific Management in the late American Industrial Revolution. It consisted of four parts—documenting tacit work routines, selecting qualified workers, motivating workers with simple rewards, and sharing tasks among managers and workers. Taylor is credited with the success of America's manufacturing phase from 1900 to the 1970s. He is considered the progenitor of Fordism and the American System of Manufacture, although this is now disputed. His contemporaries refined the early principles of organizational theory, namely Henri Fayol, Max Weber, and Chester Barnard. Scientific Management manifested itself in the works of W. Edwards Deming, Joseph Juran, Walter Shewart, Taiichi Ono, Peter Drucker, Daniel Koontz, Herbert Simon, Tom Burns, G. M. Stalker, Philip Crosby, and numerous others. Megatrends emerging from this era included total quality management, statistical process control, Toyota Production System, Japanese Management, Kaizen, zero defects, root cause analysis, process improvement, flexible manufacturing, Six Sigma, lean manufacturing, Lean Six Sigma, and Kanban. However, these theories had a central weakness. They focused on converting documented tacit work routines and extracting the most amount of efficiency. Some rested upon respect for people, but didn't say how or to what extent.

Human Behavior View

Scientific Management was called the "coordination view" and human behavior was called the "cooperation view." This was a euphemism of sorts for scholars who recognized that willingness, motivation, disposition, and agreement were necessary for organizational efficiency. Managers didn't believe that worker's opinions mattered well into the late 20th and early 21st centuries. This view is still pervasive and workers are considered property, managers are taskmasters, and workers are servants who must perform or be punished. A better name for "cooperation view" would be "equality view," but is too provocative. Organizations have done just about everything they can without declaring managers and workers as equals. Organizations shortened work hours, increased safety, improved working conditions, eliminated child labor, increased pay and benefits, and even granted generous work leave. Today, Western workers are the most productive in the world and none of these involved documenting tacit work routines. "Cooperation view" became organizational behavior, but scholars stopped short of calling it the "psychological, sociological, or behavioral view." To do so would be to imply organizational efficiency was in cultivating deeply embedded tacit human behaviors versus codifying them.

Early human behavior scholars understood that businesses were owned by capitalists with formal power, who didn't have patience for half-baked theories of human behavior. Scholars depended upon capitalists for their livelihood, enabling them to perform organizational research. Early scholars treaded lightly in Darwinistic American organizations. Taylorists believed America reached the height of its manufacturing prowess by Scientific Management alone and they were not going to accept a human behavior perspective of sharing power with workers. Dugald Jackson of MIT began the "illumination tests" at the Western Electric Hawthorne Factory in Cicero, Illinois in 1924, which are credited as the first human behavior studies. Mary Parker

Follett (1926) devised the theories of "power with" versus "power over," positing that people should not "give orders," but rather "agree on a common course of action." The next major breakthroughs came with Maslow's Hierarchy of Needs (1943), McGregor's Theory X and Y (1957), and Herzberg's Motivation-Hygiene Theory (1959). Organizational behavior was defined as the psychology and sociology of how and why individuals and groups interact within organizations. It now extends to globalization, international culture, motivation, decision-making, teamwork, conflict management, power, politics, egalitarian leadership, organizational culture, and organizational change. However, has organizational behavior gone far enough?

Project Management View

Project management is one of the most dominant undercurrents, trends, and disciplines in modern organizational theory and has its earliest beginnings in the neoclassical period. It can be traced directly to rational planning emerging from Franklin Delano Roosevelt's New Deal (1933). As a result, Karl Mannheim published a book on planning theory in 1940, inspiring Herbert Simon's rational planning model (1946) and Edward Banfield's rational planning model (1955). The program evaluation and review technique (PERT) was created to illustrate project schedules for the Navy's Polaris missile project in 1956 although some say it was never used. However, it did lead to the Critical Path Method (CPM) to determine the longest path through a project schedule in 1957. Both were considered a "revival" of Scientific Management during the Cold War as Russia launched Sputnik into orbit in 1957. Much earlier scheduling techniques included stop watches (1821), harmonografs (1896), and Gantt charts (1903). A host of project management innovations rapidly emerged, including work breakdown structure (1962), cost/schedule control systems criteria (1967), project management institute (1969), project management body of knowledge (1987), earned value management (1989), etc.

Note that Scientific Management and project management share common assumptions. First, Scientific Management is necessary for project success. Second, tacit knowledge must be converted into explicit work routines. Third, work routines must be measured using time. However, the largest assumption is that humans can be managed like machines or automatons. Innovation studies show over 70% of market and customer needs exist as hidden, inexpressible tacit knowledge. That is, knowledge, information, data, customer needs, and project scope are in the mind-of-the-beholder. It cannot be spoken, written, or poked, prodded, elicited, cajoled, enticed, threatened, or forced out of a human's head. As a result, over 33% of today's projects fail outright and 70% are behind schedule, over budget, or have breached scope control! Global project failure rates are as high as 50%. Most public sector acquisitions are beyond any hope at all. What happened to the promise of Scientific Management? Do contemporary approaches offer any hope? We'll examine this next.

CASE OF THE ENTERPRISE LEAN SIX SIGMA INITIATIVE

Total Quality Management (TQM) has a long history in the U.S. and world. Joseph Juran, W. Edwards Deming, and Walter Shewhart are the earliest figures in TQM. They were inspired by Scientific Management, which they practiced at the Hawthorne Works (1920s). Walter Shewhart published a quality control book by 1930 and statistical quality control (SQC) or statistical process control (SPC) book by 1940. Joseph Juran published "Total Quality Control" by 1950 and W. Edwards Deming started Japan's quality movement in 1950. Shigeo Shingo taught TQC and SPC at Toyota in 1950 and co-created the Toyota Production System (TPS) with Taiichi Ohno in the 1950s. Japan's Deming Prize was first awarded in 1960 and his "14-points" were immortalized in "Out of Crisis" (1986) when the U.S. Navy changed TQC to TQM at the height of the U.S. TQM movement.

Quality Circles also became popular in the 1970s to empower workers to improve organizational processes. Philip Crosby popularized Zero Defects for squeezing efficiency out of organizational functions. Motorola renamed SPC to Six Sigma, to squeeze manufacturing defects out of its semiconductors in the 1980s. MIT introduced TPS, lean, and just-in-time practices to the U.S. in 1990, although flexible manufacturing had been around since 1960. The Baldrige Award was created to exhort U.S. firms to pursue quality, although some went bankrupt because of its high cost. Jack Welch of GE adopted Six Sigma for process improvement in the 1990s. Finally, Kanban, a simple just-in-time system based on TPS, reached its Western peak in 2010. A hidden Japanese tool was the Keiretsu, which is a loose network of firms that combine their resources to give the group enormous leverage based on personal relationships versus contracts.

Executives directed their organizations to transform or reengineer their organizational processes using Lean and Six Sigma when it appeared in 2002. Six Sigma maximizes product and service quality by minimizing process variation and increases resources by lowering costs. Lean Six Sigma maximizes customer value, speed, efficiency, and quality by driving out waste, inefficiency, waiting times, and defects to create a just-in-time organizational workflow. Six Sigma uses visual tools and statistical methods, such as cause-and-effect diagrams, check sheets, control charts, histograms, Pareto charts, scatter diagrams, and stratification charts. Lean Six Sigma used some of the same tools, but focuses on value stream mapping, cycle time, queues, flow, cycle time, WIP limits, and quality. Both Six Sigma and Lean Six Sigma are staffed by teams of black, green, and yellow belts with varied training, education, skills, and experience.

Our executive formed Lean Six Sigma Teams (LSSTs) to fix our top organizational issues, one of which was the lack of integration between research, engineering, and operations. These grew to be wholly separate enterprises over the decades, billions of dollars were invested in each function, and we became a loose federation of disconnected operating divisions. R&D was responsible for investigating technologies, engineering was responsible for building systems, and operations was responsible for serving customers. R&D was happy to operate in a vacuum, engineering's projects rarely succeeded due to their immense complexity, and operations cobbled together their own systems to make ends meet. Therefore, an LSST was formed to fix them using value-driven better, faster, and cheaper tools, to help safeguard these investments. However, the LSST was not authorized to fix the enterprise with "cooperation view" principles.

Certified Six Sigma Black Belts (CSSBs) were hired to oversee LSSTs, which consisted of top division managers, and our LSST had six months to fix R&D, engineering, and operations. LSSTs were led by division managers of some importance, and ours had prior success with using consultants, so a project management consulting team was assigned to facilitate our LSST. The consultants were also required to have Lean Six Sigma subject matter experts (SMEs), so the consultants appointed an SME to lead the consulting team. Therefore, our LSST had two leaders, a division manager and an SME, as well as two teams, other division managers and consultants. Division managers were a steering committee, while consultants planned and executed the work.

Division managers received Lean Six Sigma training and fed this knowledge into the project planning process, while consultants used their own expertise to help fill-in-the-gaps. Project charters, scope statements, WBSs, activities, budgets, and schedules were formed and EVM experts tracked the hours used by the consultants to execute the work to devise solutions. External CSSBs provided oversight, although the SME was responsible for providing bottom-up coaching to both the steering committee and consulting team on the use of Lean Six Sigma tools. The SME's first challenge was to gather Lean Six Sigma information, distributed it, and mentor the LSST, which worked as a cohesive unit to devise a roadmap, deliverables, and timelines.

Our LSST's strategy consisted of interviewing key senior managers, who held strategic organizational knowledge and experience. Then, this data could be analyzed using Lean Six Sigma tools and techniques, facilitated by CSSBs to successfully identify recommendations. Our LSST interviewed dozens of senior managers, mostly from within engineering, because this is where the lion's share of organization's investments lay. The SME coordinated and facilitated the interviews, collected the data, and made it available for Lean Six Sigma analysis. Our LSST filtered the raw data to look for patterns of organizational success. The SME was also an expert in new product development, which is a hybrid of "coordination" and "cooperation" principles.

In one interview, a senior manager described a solution to the issues between R&D, engineering, and operations. In an earlier project, he was placed in charge of solving a key customer need. A field operator had a critical need that came to the attention of our executive. An engineering manager was appointed to solve the problem and he had the foresight to assemble a small cross-functional team from R&D, engineering, and operations to resolve it. Then, they prototyped a new solution based on cutting edge technology, performed lightweight engineering, and rapidly fielded it to dramatically improve organizational performance. It only cost a few thousand dollars, while the typical engineering project cost billions and usually failed.

Unfortunately, our LSST ignored the information, because they were too busy talking over the voice tracks of each senior manager we interviewed. The division manager's egos got in the way and they used the interviews to show off their expertise in order to get promoted. The SME was the only one who seemed to be listening, as it was his job to facilitate the interviews, and he recognized the information as a type of new product development model. The SME was surprised and pleased to hear about the use of coordination and cooperation views (i.e., customer collaboration, adaptive planning, fast incremental deliveries, and small cross-functional teams).

The SME politely advised the LSST leader to remind the team to do more listening instead of talking, which was a good opportunity to establish a personal relationship with his customer.

Our LSST leader halved our timeline from six months to only 90 days to focus on getting a new position, which placed enormous pressure on the LSST as well as the project schedule. Hours quickly passed, work accumulated, and milestones were being missed, causing our EVM analyst to lose patience as deadlines approached and EVM measures indicated project failure. CSSBs were not pleased, because Lean Six Sigma steps were skipped to focus on the final set of recommendations, and the LSST had no intention of implementing them to the dismay of CSSBs. Division managers became obsessed with solving the problem individually, bickered endlessly, and fought for power and control to receive credit for fixing R&D, engineering, and operations. Of course, they were relying on their own experience and opinions to devise solutions, as they hadn't taken the time to listen to the voice of the customers who described legitimate alternatives.

Aside from the LSST, the SME was the de facto project champion. He gathered a lot of Lean Six Sigma information, distributed it to team, and provided coaching. He gathered success stories and developed a business case for the project. He studied the new product development paradigms and organized this data into powerful infographics, which were distributed to the team. He asked some of the world's top experts to consult with the team and created a portal to collect all of the external as well as internal interview data. The portal was a critical success factor, as it served as the central repository of team knowledge, assumptions, priorities, and current focus. He used his expertise to filter the data and ensure the LSST always saw the most relevant data, and he also began seeding a final set of recommendations to the LSST leader and team members.

The LSST lead transitioned to the new role, distanced himself, and pressured everyone to cut corners to complete the project, which undermined the confidence of the consultants. Thus, they began withdrawing from the LSST and assumed responsibility for winding the project down. A new division manager was appointed, who ordered the consultants to terminate the project in undermine the outgoing manager's success, and default on the commitment to our executive. The SME asked the consultants to grant a small amount of time to administratively close the project, which he used to complete the project instead. He negotiated with the CSSBs and communicated the intentions and priorities of the LSST lead, which were to deliver a set of recommendations to our executive using an abbreviated Lean Six Sigma methodology as quickly as possible.

The SME used the remaining time to communicate face-to-face with the LSST lead multiple times per day, to obtain the team's priorities and communicate personalized strategies. He informed the LSST lead of the sensitivity of the emerging political climate and advised the LSST to walk softly with the various stakeholders who were on pins and needles. He informed the LSST lead that the project was being closed by key stakeholders and suggested tactics for completing the project in spite of these undercurrents. Finally, the SME held a series of capstone meetings to finalize the recommendations, get stakeholder commitment, and motivate the media experts to assemble the executive briefings. He delivered the final recommendations and closed project, all on the shoestring budget he'd previously requested from consulting team.

SUMMARY

This was a case study on using Scientific Management versus human behavior concepts for diagnosing systemic organizational issues related to R&D, engineering, and operations. These functions became a self-serving entities and new products and services did not grow from ideas into engineering and operations in spite of multi-billion dollar investments over decades. Like so many organizations over the last century, Scientific Management principles were used in the form of Lean Six Sigma and project management to improve organizational performance.

Project management is designed to complete new products and services within their scope, time, and cost constraints, while maintaining customer satisfaction, technical performance, and quality. Lean Six Sigma maximizes value by increasing speed, efficiency, and quality of organizational processes by creating a waste-free, demand-based new product and service delivery workflow.

However, what was the outcome of this organizational transformational initiative? Did Scientific Management principles in the form of project management and Lean Six Sigma work? Did the LSST fix R&D, engineering, and operations as the organizational executive desired? From the project management perspective, the LSST was a disaster, because the scope consisting of Lean Six Sigma activities and artifacts was not completed to finish the task in only 90 days. The total scope included cause-and-effect diagrams, Ishikawa charts, check sheets, control charts, histograms, Pareto charts, scatter diagrams, value stream maps, queues, flows, WIP limits, etc. From an EVM standpoint the schedule and cost performance were non-starters, since few of the Lean Six Sigma activities and deliverables were utilized. However, the real scope consisting of the recommendations were completed on-time and budget to the executive's satisfaction.

Furthermore, the LSST lead was utterly delighted, which is a benefit of "cooperation view" principles such as relationships, trust, communication, collaboration, shared power, etc. The LSST lead was young, ambitious, ruthless, cunning, intelligent, merciless, ruled with an iron scepter, and had a well-deserved reputation of being impossible to satisfy as many experienced. Historically, the LSST lead demanded the use of only the best and brightest consultants with advanced scientific education, sharp technical skills, and rigorous project management discipline. However, an SME used softer people skills, emotional intelligence, instinct, risk taking, and raw courage to establish a close, continuing, and trusting personal relationship with the LSST lead. Armed with cooperation view skills, the SME shepherded this project to a successful end and the

LSST lead granted the first ever formal reward to the consultants because of the SME's efforts.

The executive acted upon the LSST's recommendations and formed a cross-functional project to build largest and most complex system in the 60 year history of this organization. The SME participated in this new project and was pleased to see the use of cooperation view principles grow every day on this project and many others. The use of cooperation view principles is gaining a foothold throughout industry and world to readdress both project as well as organizational performance improvement. However, there is still much work to be done.

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