



The Trophy Project

The ill-fated Trophy Project was in trouble right from the start. Reichart, who had been an assistant project manager, was involved with the project from its conception. When the Trophy Project was accepted by the company, Reichart was assigned as the project manager. The program schedules started to slip from day 1, and expenditures were excessive. Reichart found that the functional managers were charging direct labor time to his project but working on their own pet projects. When he complained of this, he was told not to meddle in the functional manager's allocation of resources and budgeted expenditures. After approximately six months, Reichart was requested to make a progress report directly to corporate and division staffs.

Reichart took this opportunity to bare his soul. The report substantiated that the project was forecasted to be one complete year behind schedule. Reichart's staff, as supplied by the line managers, was inadequate to maintain the current pace, let alone make up any time that had already been lost. The estimated cost at completion at this interval showed a cost overrun of at least 20 percent. This was Reichart's first opportunity to tell his story to people who were in a position to correct the situation. The result of Reichart's frank, candid evaluation of the Trophy Project was very predictable. Nonbelievers finally saw the light, and line managers realized that they had a role to play in the completion of the project. Most of the problems were now out in the open and could be corrected with adequate staffing and resources. Corporate staff ordered immediate remedial action and staff support to provide Reichart a chance to bail out his program.

The results were not at all what Reichart had expected. He no longer reported to the project office; he now reported directly to the operations manager. Corporate staff's interest in the project became very intense, requiring a 7:00 a.m. meeting every Monday for complete review of the project status and plans for recovery. Reichart found himself spending more time preparing paperwork, reports, and projections for his Monday morning meetings than he did administering the Trophy Project. The main concern of corporate was to get the project back on schedule. Reichart spent many hours preparing the recovery plan and establishing manpower requirements to bring the program back onto the original schedule.

Group staff, in order to closely track the progress of the Trophy Project, assigned an assistant program manager. The assistant program manager determined that a sure cure for the Trophy Project would be to computerize the various problems and track the progress through a very complex computer program. Corporate provided Reichart with 12 additional staff members to work on the computer program. In the meantime, nothing changed. The functional managers still did not provide adequate staff for recovery, as they assumed that the additional manpower Reichart had received from corporate would accomplish that task.

After approximately \$50,000 was spent on the computer program to track the problems, it was found that the computer could not handle the program objectives. Reichart discussed this problem with a computer supplier and found that \$15,000 more was required for programming and additional storage capacity. It would take two months for installation of the additional storage capacity and completion of the programming. At this point, the decision was made to abandon the computer program.

Reichart was now a year and a half into the program with no prototype units completed. The program was still nine months behind schedule with the overrun projected at 40 percent of budget. The customer had been receiving reports on a timely basis and was well aware that the Trophy Project was behind schedule. Reichart had spent a great deal of time with the customer explaining the problems and the plan for recovery. Another problem that Reichart had to contend with was that the vendors who were supplying components for the project were also running behind schedule.

One Sunday morning, while Reichart was in his office putting together a report for the client, a corporate vice president came in. "Reichart," he said, "in any project I look at the top sheet of paper, and the man whose name appears at the top of the sheet is the one I hold responsible. For this project, your name appears at the top of the sheet. If you cannot bail this thing out, you are in serious trouble in this corporation." Reichart did not know which way to turn or what to say. He had no control over the functional managers who were creating the problems, but he was the person who was being held responsible.

After another three months, the customer, becoming impatient, realized that the Trophy Project was in serious trouble and requested that the division general

manager and his entire staff visit the customer's plant to give a progress and get-well report within a week. The division general manager called Reichart into his office and said, "Reichart, go visit our customer. Take three or four functional line people with you and try to placate him with whatever you feel is necessary." Reichart and four functional line people visited the customer and gave a four-and-a-half-hour presentation defining the problems and the progress to that point. The customer was very polite and even commented that it was an excellent presentation, but the content was totally unacceptable. The program was still six to eight months late, and the customer demanded progress reports on a weekly basis. The customer made arrangements to assign a representative in Reichart's department to be on-site at the project on a daily basis and to interface with Reichart and his staff as required. After this turn of events, the program became very hectic.

The customer representative demanded constant updates and problem identification and then became involved in attempting to solve these problems. This involvement created many changes in the program and the product in order to eliminate some of the problems. Reichart had trouble with the customer and did not agree with the changes in the program. He expressed his disagreement vocally when, in many cases, the customer felt the changes were at no cost. This caused a deterioration of the relationship between client and producer.

One morning Reichart was called into the division general manager's office and introduced to Mr. "Red" Baron. Reichart was told to turn over the reins of the Trophy Project to Red immediately. "Reichart, you will be temporarily reassigned to some other division within the corporation. I suggest you start looking outside the company for another job." Reichart looked at Red and asked, "Who did this? Who shot me down?"

Red was program manager on the Trophy Project for approximately six months, after which, by mutual agreement, he was replaced by a third project manager. The customer reassigned his local program manager to another project. With the new team, the Trophy Project was finally completed one year behind schedule and at a 40 percent cost overrun.

QUESTIONS

1. Did the project appear to be planned correctly?
2. Did functional management seem to be committed to the project?
3. Did senior management appear supportive and committed?
4. Can a single methodology for project management be designed to force cooperation to occur between groups?
5. Is it possible or even desirable for strategic planning for project management to include ways to improve cooperation and working relationships, or is this beyond the scope of strategic planning for project management?



Margo Company

“I’ve called this meeting, gentlemen, because that paper factory we call a computer organization is driving up our overhead rates,” snorted Richard Margo, president, as he looked around the table at the vice presidents of project management, engineering, manufacturing, marketing, administration, and information systems. “We seem to be developing reports faster than we can update our computer facility. Just one year ago, we updated our computer, and now we’re operating three shifts a day, seven days a week. Where do we go from here?”

V.P. information: “As you all know, Richard asked me, about two months ago, to investigate this gigantic increase in the flow of paperwork. There’s no question that we’re getting too many reports. The question is, are we paying too much money for the information that we get? I’ve surveyed all of our departments and their key personnel. Most of the survey questionnaires indicate that we’re getting too much information. Only a small percentage of each report appears to be necessary. In addition, many of the reports arrive too late. I’m talking about scheduled reports, not planning, demand, or exception reports.”

V.P. project management: “Every report people may receive is necessary for us to make decisions effectively with regard to planning, organizing, and controlling each project. My people are the biggest users, and we can’t live with fewer reports.”

V.P. information: “Can your people live with less information in each report? Can some of the reports be received less frequently?”

V.P. project management: “Some of our reports have too much information in them. But we need them at the frequency we have now.”

V.P. engineering: “My people utilize about 20 percent of the information in most of our reports. Once our people find the information they want, the report is discarded. That’s because we know that each project manager will retain a copy. Also, only the department managers and section supervisors read the reports.”

V.P. information: “Can engineering and manufacturing get the information they need from other sources, such as the project office?”

V.P. project management: “Wait a minute! My people don’t have time to act as paper pushers for each department manager. We all know that the departments can’t function without these reports. Why should we assume the burden?”

V.P. information: “All I’m trying to say is that many of our reports can be combined into smaller ones and possibly made more concise. Most of our reports are flexible enough to meet changes in our operating business. We have two sets of reports: one for the customer and one for us. If the customer wants the report in a specific fashion, he pays for it. Why can’t we act as our own customer and try to make a reporting system that we can all use?”

V.P. engineering: “Many of the reports obviously don’t justify the cost. Can we generate the minimum number of reports and pass it on to someone higher or lower in the organization?”

V.P. project management: “We need weekly reports, and we need them on Monday mornings. I know our computer people don’t like to work on Sunday evenings, but we have no choice. If we don’t have those reports on Monday mornings, we can’t control time, cost, and performance.”

V.P. information: “There are no reports generated from the pertinent data in our original computer runs. This looks to me like every report is a one-shot deal. There has to be room for improvement.

“I have prepared a checklist for each of you with four major questions: Do you want summary or detailed information? How do you want the output to look? How many copies do you need? How often do you need these reports?”

Richard Margo: “In project organizational forms, the project exists as a separate entity except for administrative purposes. These reports are part of that administrative purpose. Combining this with the high cost of administration in our project structure, we’ll never remain competitive unless we lower our overhead. I’m going to leave it up to you guys. Try to reduce the number of reports, but don’t sacrifice the necessary information you need to control the projects and your resources.”



Project Overrun

The Green Company production project was completed three months behind schedule and at a cost overrun of approximately 60 percent. Following submittal of the final report, Phil Graham, the director of project management, called a meeting to discuss the problems encountered on the project.

Phil Graham: “We’re not here to point the finger at anyone. We’re here to analyze what went wrong and to see if we can develop any policies and/or procedures that will prevent this from happening in the future. What went wrong?”

Project manager: “When we accepted the contract, Green did not have a fixed delivery schedule for us to go by because they weren’t sure when their new production plant would be ready to begin production activities. So, we estimated 3,000 units per month for months 5 through 12 of the project. When Green found that the production plant would be available two months ahead of schedule, they asked us to accelerate our production activities. So, we put all of our production people on overtime in order to satisfy their schedule. This was our mistake, because we accepted a fixed delivery date and budget before we understood everything.”

Functional manager: “Our problem was that the customer could not provide us with a fixed set of specifications, because the final set of specifications depended on OSHA and EPA requirements, which could not be confirmed until

initial testing of the new plant. Our people, therefore, were asked to commit to man-hours before specifications could be reviewed.

“Six months after project go-ahead, Green Company issued the final specifications. We had to remake 6,000 production units because they did not live up to the new specifications.”

Project manager: “The customer was willing to pay for the remake units. This was established in the contract. Unfortunately, our contract people didn’t tell me that we were still liable for the penalty payments if we didn’t adhere to the original schedule.”

Phil Graham: “Don’t you feel that misinterpretation of the terms and conditions is your responsibility?”

Project manager: “I guess I’ll have to take some of the blame.”

Functional manager: “We need specific documentation on what to do in case of specification changes. I don’t think that our people realize that user approval of specification is not a contract agreed to in blood. Specifications can change, even in the middle of a project. Our people must understand that, as well as the necessary procedures for implementing change.”

Phil Graham: “I’ve heard that the functional employees on the assembly line are grumbling about the Green Project. What’s their gripe?”

Functional manager: “We were directed to cut out all overtime on all projects. But when the Green Project got into trouble, overtime became a way of life. For nine months, the functional employees on the Green Project had as much overtime as they wanted. This made the functional employees on other projects very unhappy.

“To make matters worse, the functional employees got used to a big take-home paycheck and started living beyond their means. When the project ended, so did their overtime. Now they claim that we should give them the opportunity for more overtime. Everybody hates us.”

Phil Graham: “Well, now we know the causes of the problem. Any recommendations for cures and future prevention activities?”

QUESTIONS

1. What are the critical issues in the case?
2. How should they be resolved?



The Automated Evaluation Project

“No deal!” said the union. “The current method of evaluating government employees at this agency is terrible, and if a change doesn’t occur, we’ll be in court seeking damages.”

In 1984, a government agency approved and initiated an ambitious project, part of which was to develop an updated, automated evaluation system for the 50,000 employees located throughout the United States. The existing evaluation system was antiquated. Although forms were used for employee evaluation, standardization was still lacking. Not all promotions were based on performance. Often they were based on time in grade, the personal whims of management, or friendships. Some divisions seemed to promote employees faster than others. The success or failure of a project could also seriously impact performance opportunities. Some type of standardization was essential.

In June 1985, a project manager was finally assigned and brought on board. The assignment of the project manager was based on rank and availability at that time rather than the requirements of the project. Team members often possessed a much better understanding of the project than did the project manager.

The project manager, together with his team, quickly developed an *action plan*. The action plan did *not* contain a work breakdown structure but did contain a statement of work which called out high-level deliverables that would be essential for structured analyses, design, and programming. The statement of work and deliverables were more in compliance with agency requirements for structured

analyses, design, and programming than with the project's requirements. The entire action plan was prepared by the project office, which was composed of eight employees.

Bids from outside vendors were solicited for the software packages, with the constraint that all deliverables must be operational on existing agency hardware. In October 1985, the award was made by the project office to Primco Corporation with work scheduled to begin in December 1985.

In the spring of 1986, it became apparent that the project was running into trouble and disaster was imminent. Three major problems faced the project manager. As stated by the project manager:

1. The requirements for the project had to be changed because of new regulations for government worker employee evaluation.
2. Primco did not have highly skilled personnel assigned to the project.
3. The agency did not have highly skilled personnel from the functional areas assigned to the project.

The last item was controversial. The line managers at the agency contended that they had assigned some of their best people and that the real problem was that the project manager was trying to make all of the decisions himself without any input from the assigned personnel. The employees contended that proper project management practices were not being used. The project was being run like a dictatorship rather than a democracy. Several employees felt that they were not treated as part of the project team.

According to one team member:

The project manager keeps making technical decisions without any solid foundation to support his views. Several of us in the line organization have significantly more knowledge than does the project manager, yet he keeps overriding our recommendations and decisions. Perhaps he has that right, but I dislike being treated as a second-class citizen. If the project manager has all of this technical knowledge, then why does he need us?

In June 1986, the decision was made by the project manager to ask one of the assistant agency directors to tell the union that the original commitment date of January 1987 would not be met. A stop-work order was issued to Primco, thus canceling the contract.

The original action plan called for the use of existing agency hardware. However, because of unfavorable publicity about hardware and software problems at the agency during the spring of 1986, the agency felt that the UNIVAC System would not support the additional requirements, and system overload might occur. Now hardware, as well as software, would be needed.

To help maintain morale, the project manager decided to perform as much of the work as possible in-house, even though the project lacked critical resources and was already more than one year late. The project office took what was developed thus far and tried to redefine the requirements.

With the support of senior management at the agency, the original statement of work was thrown away and a new statement of work was prepared. "It was like starting over right from the beginning," remarked one of the employees. "We never looked back at what was accomplished thus far. It was a whole new project!" With the support of the agency's personnel office, the new requirements were finally completed in February of 1987.

The union, furious over the schedule slippage, refused to communicate with the project office and senior management. The union's contention was that an "illegal" evaluation system was in place, and the current system could not properly validate performance review requirements. The union initiated a lawsuit against the agency seeking damages in excess of \$21 million.

In November 1986, procurement went out for bids for both hardware and a database management system. The procurement process continued until June 1987, when it was canceled by another government agency responsible for procurement. No reason was ever provided for the cancellation.

Seeking alternatives, the following decisions were made:

1. Use rented equipment to perform the programming.
2. Purchase a database management system from ITEKO Corporation, provided that some customization could be accomplished. The new database management system was scheduled to be released to the general public in about two months.

The database management system was actually in the final stages of development. ITEKO Corporation promised the agency that a fully operational version, with the necessary customization, could be provided quickly. Difficulties arose with the use of the ITEKO package. After hiring a consultant from ITEKO, it was found that the ITEKO package was a beta rather than a production version. Despite these setbacks, personnel kept programming on the leased equipment with the hope of eventually purchasing a Micronet Hardware System. ITEKO convinced the agency that the Micronet hardware system was the best system available to support the database management system. The Micronet hardware was then added to the agency's equipment contract but later disallowed on September 29, 1987, because it was not standard agency equipment.

On October 10, 1987, the project office decided to outsource some of the work using a small/minority business procurement strategy for hardware to support the ITEKO package. The final award was made in November 1987, subject to

software certification by the one of the agency's logistics centers. Installation in all of the centers was completed between November and December 1987.

QUESTIONS

1. Is there anything in the case that indicates the maturity level of project management at the agency around 1985–1986?
2. What are the major problems in the case?
3. Who was at fault?
4. How do you prevent this from occurring on other projects?



The Rise, Fall, and Resurrection of Iridium: A Project Management Perspective

The Iridium Project was designed to create a worldwide wireless handheld mobile phone system with the ability to communicate anywhere in the world at any time. Executives at Motorola regarded the project as the eighth wonder of the world. But more than a decade later and after investing billions of dollars, Iridium had solved a problem that very few customers needed solved. What went wrong? How did the Iridium Project transform from a leading-edge technical marvel to a multibillion-dollar blunder? Could the potential catastrophe have been prevented?

What it looks like now is a multibillion-dollar science project. There are fundamental problems: The handset is big, the service is expensive, and the customers haven't really been identified.

—Chris Chaney, Analyst, A.G. Edwards, 1999

There was never a business case for Iridium. There was never market demand. The decision to build Iridium wasn't a rational business decision. It was more of a religious decision. The remarkable thing is that this happened at a big corporation, and that there was not a rational decision-making process in place to pull the plug. Technology for technology's sake may not be a good business case.

—Herschel Shosteck, Telecommunication Consultant

Iridium is likely to be some of the most expensive space debris ever.

—William Kidd, Analyst, C.E. Unterberg, Towbin

In 1985, Bary Bertiger, chief engineer in Motorola's strategic electronics division, and his wife, Karen, were on a vacation in the Bahamas. Karen tried to make a cellular telephone call back to her home near the Motorola facility in Chandler, Arizona, to close a real-estate transaction. Unsuccessful, she asked her husband why it would not be possible to create a telephone system that would work anywhere in the world, even in remote locations.

At this time, cell technology was in its infancy but was expected to grow at an astounding rate. AT&T projected as many as 40 million subscribers by 2000.¹ Cell technology was based on tower-to-tower transmission, as shown in Exhibit I. Each tower, or "gateway" ground station, reached a limited geographic area or cell and had to be within the satellite's field of view. Cell phone users likewise had to be near a gateway that would uplink the transmission to a satellite. The satellite would then downlink the signal to another gateway that would connect the transmission to a ground telephone system. This type of communication is often referred to as bent pipe architecture. Physical barriers between the senders/receivers and the gateways, such as mountains, tunnels, and oceans, created interference problems and therefore limited service to high-density communities. Simply stated, cell phones couldn't leave home. And, if they did, there would be additional "roaming" charges. To make matters worse, every country had its own standards, and some cell phones were inoperable when traveling in other countries.

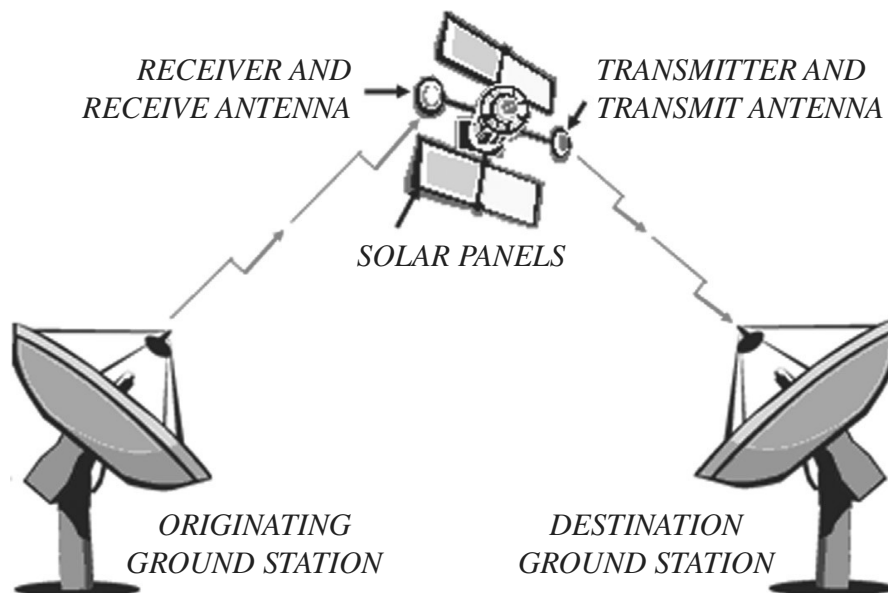


FIGURE I Typical satellite communication architecture

¹ Judith Bird, "Cellular Technology in Telephones," *data processing* 27, no. 8 (October 1985): 37.